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ACCES Assessment of Command and Control During a Division-Level CPX, Late Spring 1991

(ACCES Application 91-01)

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13. ABSTRACT *(Maximum 200 words)*

The Army Command and Control Evaluation System (ACCES), under continued development by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), assesses Army command and control (C2) processes. This report documents ACCES application 91-01, a 5-day division-level command post exercise. The exercise identified several shortcomings in the division's C2 processes.

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ACCES ASSESSMENT OF COMMAND AND CONTROL DURING A DIVISION-LEVEL CPX, LATE SPRING 1991 (ACCES APPLICATION 91-01)

EXECUTIVE SUMMARY

This report presents the results of an assessment of command and control (C2) during a 5-day division-level command post exercise (CPX) conducted in late spring, 1991. The CPX involved the division headquarters, two maneuver brigade headquarters organic to the division, a separate reserve component "round out" brigade headquarters, and an armored cavalry regiment (corps troops).

The Army Command and Control Evaluation System (ACCES) methodology developed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) Field Unit at Fort Leavenworth, Kansas, was used for the assessment.

The ACCES team for the CPX included 14 government (military and civilian) and contractor observer personnel at the command posts (CPs) of the division, one organic brigade, and the exercise control center. The data collection and subsequent analysis efforts focused on addressing the 256 measures used in the enhanced ACCES methodology to assess the effectiveness of the unit's command and control (C2) process. As with all ACCES applications, it must be kept in mind that the conclusions presented are based on a sampling of the C2 actions during the exercise; the small number of data collectors are strictly enjoined not to disrupt the training. In this exercise, a combination of inexperienced observers, new ACCES measures, and untried data collation sheets led to increased problems in collecting sufficient, applicable data to address all measures adequately.

Analysis of the available data shows that the C2 processes evaluated did not support the division and its subordinate units to the extent required for success. As the exercise began, the C2 processes were stable, mainly due to the implementation of preestablished plans. As the exercise progressed, C2 began to deteriorate, largely because of incomplete information and assessments pertaining to the enemy's combat capabilities. This resulted in highly reactive planning with few options for actions available.

The division initially assumed the offensive, but was twice forced into the defensive by a stronger-than-anticipated enemy force and spent most of the final 2 days of the exercise in a defensive posture. The division's plans issued during the exercise were generally unstable, with less than 20% remaining in effect over the entire periods they were intended to cover. Contributing to this lack of stability was the lack of contingencies in the plans the division developed during the exercise.

On the positive side, the CPs throughout the division coordinated well with each other to ensure that actions were harmonized. Within CPs, the cells coordinated their actions and information well. There were no incidents recorded in which information disseminated or actions taken by one CP conflicted with those of another. Directives issued were generally clear, and little if any time was required for clarification or additional information.

ACCES ASSESSMENT OF COMMAND AND CONTROL DURING A DIVISION-LEVEL CPX, LATE SPRING 1991 (ACCES APPLICATION 91-01)

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Chapter I. OVERVIEW

Introduction

This report provides an assessment of command and control (C2) during a division-level command post exercise (CPX) in the spring of 1991 (ACCES application 91-01). The Army Command and Control Evaluation System (ACCES) methodology was used as the basis for this assessment. ACCES is part of a program of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) Ft. Leavenworth Field Unit to develop methodologies for measuring staff performance at the individual and group level.

Background

ACCES' purpose is to provide indicators of the effectiveness of C2 at various levels. Traditional force effectiveness measures do not adequately evaluate C2 performance because they address the headquarters primarily in terms of the success of its subordinates' efforts. Measuring the effectiveness of a headquarters staff requires an understanding of the processes the staff performs to support and enhance the performance of subordinate elements and accomplish military missions. Under the sponsorship of the Combined Arms Command–Combat Development, the ARI Field Unit at Fort Leavenworth has addressed this need through the development of ACCES.

Over the past three years, the evolving ACCES methodology has provided the framework to measure quantitatively how well staff processes are performed. During command post exercises (CPX) and field training exercises (FTX), commanders and staffs are given the opportunity to practice their C2 functions in varying tactical environments and situations. Feedback based on ACCES observations and measures is intended to provide to commanders and staffs assistance in honing their abilities to function as an effective C2 team.

Ongoing ACCES methodology enhancement efforts include bringing ACCES measures into synchronization with Army doctrinal tasks and standards and refining the data collection and analysis procedures.

Army Command and Control Evaluation System

ACCES is based on a view that a headquarters staff is analogous to an adaptive control system that seeks to influence key elements of the environment by means of the plans it develops and directives it issues to its subordinates. This view implies that the overall effectiveness of the headquarters can be judged by the viability of its plans. Good plans can be executed without need for modification beyond the contingencies built into them and will remain in effect throughout their intended lives. By contrast, less viable plans, in decreasing order of effectiveness, will

- require minor adjustments in the course of their execution, without change to the basic plan;

- require execution of a contingency, significantly different from the intended course of action, but provided for in the initial plan; or

- require cancellation and issuance of an entirely new plan.

The overall ACCES measures of headquarters effectiveness address primarily the extent to which plans remain in effect for their intended periods, without the need for unanticipated changes in the plans. Secondarily, ACCES addresses the timeliness of the process that produces those plans. Headquarters that receive high scores under ACCES are those which issue plans (including missions, assets, boundaries, and schedules) which include contingencies and which allow subordinate commanders adequate time to do their own planning and preparation prior to execution.

ACCES also provides diagnostic scores for the quality of processes by which military functions are performed. The measurement tool treats the headquarters as an adaptive control system operating in control cycles that seek to keep key features of the environment within expected boundaries. The control cycle is used in ACCES as an organizing device around which to build descriptions of the information transformation processes engaged in by a staff and the decision maker, from the acquisition of data to the issuance of plans and orders.

The ACCES model, as shown in Figure 1, is very similar to the C2 process described in FM 101-5 and other Army doctrinal publications. In Figure 1 the titles in italics (outside the boundaries of the C2 process elements) are those of the related categories into which the ACCES effectiveness measures are grouped. The nine categories of measures (*Information Handling* is separated into *Incoming* and *Outgoing*) are described in detail in Chapter III (Assessment of the Division's C2), beginning on page 9.

The primary focus of ACCES is on the performance of command centers from brigade through corps level at various stages of the planning process, from the collection of data through the development and implementation of plans. However, in order to provide a complete evaluation of division C2, ACCES also looks at the performance of individual functional cells and the interactions among the cells. The general approach is built around the following concepts:

- A staff (or a single staff element or a network of staffs) is conceptualized as an adaptive system seeking to control key features of the environment.

- The environment consists of other commanders and their staffs, plus the elements of METT-T [mission(s), enemy, troops, terrain, and time available].

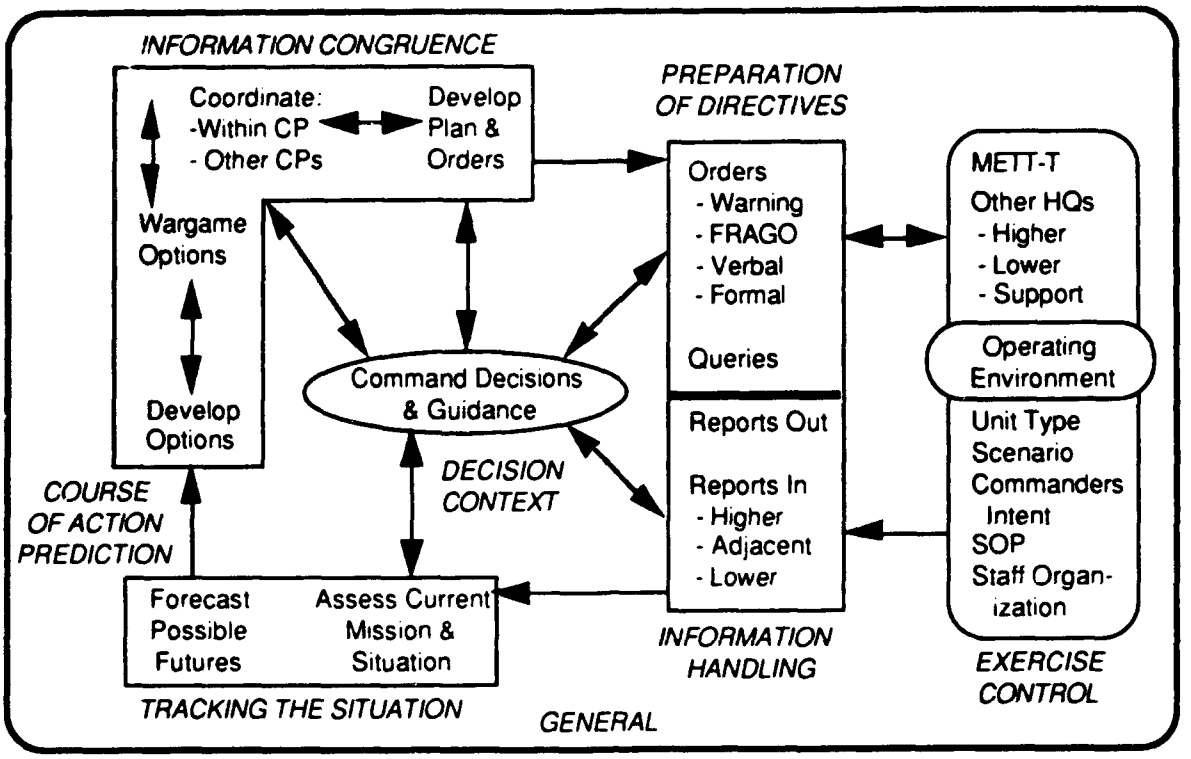


Figure 1. ACCES Command and Control Model

- The staff is understood to engage in a number of processes in order to support decision making and implementation:

- collecting information through monitoring the environment,
- inquiring (seeking information),
- synthesizing information,
- developing and evaluating alternatives,
- reviewing recommended courses of action,
- implementing plans,
- coordinating, and
- disseminating information in messages and reports.

As a result of these processes, several different types of products are generated:

- information about the environment;
- an initial understanding of the situation;
- estimates of the situation, including a set of alternative courses of action, their expected results, and consequent recommendations;
- decisions by the commander (or, in some cases, the staff acting for the commander);
- inquiries (for information);
- reports that inform others, including answers to incoming queries;
- command guidance; and
- plans/directives.

The concepts upon which ACCES is built assume that effective staffs look ahead in time and develop plans that are robust (i.e., plans that will support mission accomplishment despite changes in the elements of METT-T). ACCES includes over 250 measures of performance, grouped into the major categories shown in Figure 1.

Chapter II. DESCRIPTION OF THE ACCES APPLICATION

Introduction

This chapter describes the characteristics of the exercise, including pertinent information about the unit and the exercise conduct, and outlines the ACCES data collection effort.

Characteristics of the Exercise

Information in this paragraph is taken from data gathered to address measures in the Exercise Control (xE) category. A complete description of the measures in this category and the results of data analysis can be found in Appendix A.

Exercise conditions. This was a command post exercise (CPX) conducted in a field environment with tactical operations centers of the division headquarters (DMAIN, DREAR, and DTAC) and the maneuver brigades deployed. Besides the division headquarters, three brigades participated, two organic and one separate reserve component brigade which "rounds out" the division in wartime. An armored cavalry regiment (corps troops) also participated and was OPCON to the division at various times during the exercise. Higher headquarters (corps) was represented by the commander and primary staff, while adjacent headquarters were represented by response cells. Opposing forces were played from Ft. Leavenworth, KS, and the Joint Exercise Simulation System (JESS) was used to determine outcomes of events in the exercise.

Exercise phases. The CPX was conducted over a five-day period. Operational phases of the exercise are depicted in Figure 2 below. As shown in Figure 2, the division initially assumed the offensive, but was forced into a defensive posture twice, and remained on the defensive during the last 47 hours of the exercise. After initial contact the division was in an offensive posture for 25-1/2 hours, or 31% of the exercise time. A detailed exercise summary and an event timeline are included at Appendix B.

Unit experience. The division had spent approximately two months in field training during the 24 months prior to the exercise. In addition, the division trained and prepared to deploy during the Persian Gulf crisis, and approximately 20% of its subordinate units actually deployed under control of other higher echelon organizations. Immediate staff members (assistant commanders, Chief of Staff, and principal general and special staff members) had been with the unit a median length of time of eight months.

Combat Intensity and Workload. The exercise scenario included high-intensity combat against a very capable opposing force. The unit planned its staff shift changes every twelve hours, but commanders and principal staff members were observed to work far beyond their scheduled shift times.

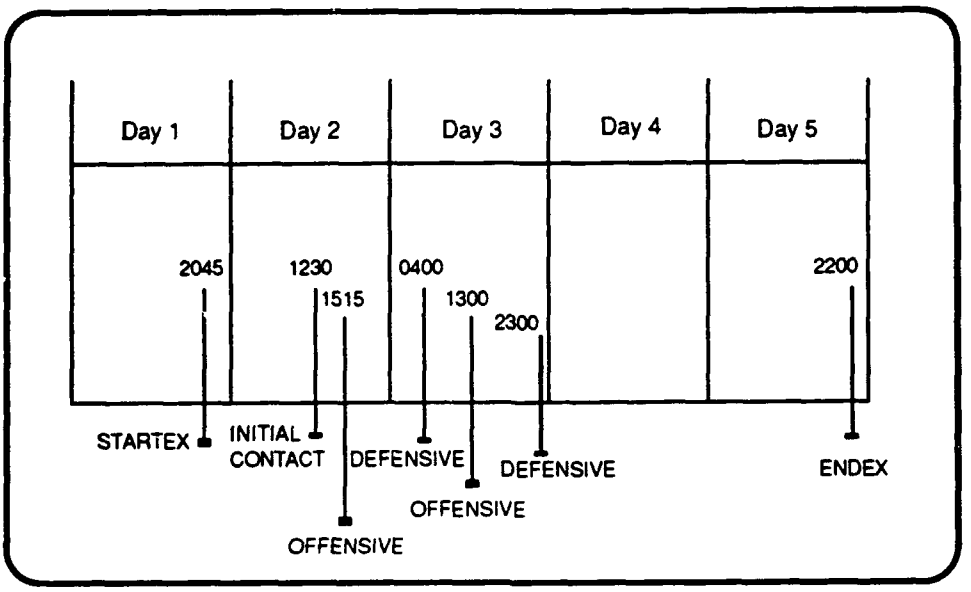


Figure 2. Exercise Phases

Automation and Communications Support. The unit was equipped with the Maneuver Control System (MCS) as an automated aid to planning and support and the Mobile Subscriber Equipment (MSE) for area communications.

ACCES Data Collection

A combined team of 14 military and civilian (government and contractor) observer personnel collected and collated data from the exercise. Observers were located in the following cells at DMAIN: plans, current operations, and intelligence. An observer was also located in each of the following: DTAC, DREAR, an organic brigade CP, and the exercise control center. Only two of the observers had had previous ACCES application experience. The data collation sheets provided for the exercise were being used for the first time, and data were being collected to address a completely new set of ACCES measures. The combination of inexperienced observers, new ACCES measures and untried data collation sheets led to problems in collecting sufficient, applicable data to address all measures adequately.

It is important to recognize that gaps in data collection are not due solely to the level of experience of the observers and to the stage of maturation of the particular version of ACCES applied. In applying ACCES (i.e., in collecting data in the field during a unit's CPX) we must be very sensative to the purpose of the exercise (command and staff training) and must make a conscious trade-off between the quantity of data collected *vs.* the danger of interfering with the exercise. Part of the success of ACCES is due to the fact that it does allow useful data to be collected with only six or seven observers per shift, and to the fact that the observers merely observe; they do

not ask questions about the actions they observe nor do they ask for explanations of actions not taken. The result of having a limited number of observers who do not interfere in the ongoing process is that we capture only some fraction of the total picture, even with the most experienced observers. Even though having relatively inexperienced observers undoubtedly decreases the size and quality of the data set we obtain, we recognize that there are some ACCES measures for which adequate data may never be obtained, even under the most ideal circumstances. One of the objectives of this phase of the ACCES development project is to identify and purge "nice-to-have-but-impractical-to-obtain" measures.

Chapter III. ASSESSMENT OF THE DIVISION'S C2

Introduction

This chapter provides indicators of the effectiveness of the division's C2 as measured by ACCES.

ACCES scores were computed directly from the information entered by the observers on ACCES data collation sheets. Where there were gaps in the data collected, ACCES analysts made efforts to fill them by consulting observers' notes, related data sheets, and (where possible) the observers themselves. Ground truth, with which to compare perceptions in command posts and cells, was derived primarily from data collected at Exercise Control.

From the computations, ACCES scoring sheets for each measure were prepared (Appendix C). For most measures these sheets include the sample size, explanation of any samples that degraded the score, and the ACCES scores for the measure.

ACCES scores are of three types:

- Values expressed on a 0-100 scale that are either percentages or values obtained by weighting "goodness" to fit a 0-100 scale.
- Time measures, where the score is normally the median value of times in the sample.
- Counts of the number of options considered, number of planners involved, etc.

The ACCES scores range from 0 (worst) to 100 (best) except for the time scores, which are normally median times stated in minutes or hours. Time scores may increase or decrease in "goodness" with increases in value, as long time periods are good in some cases (e.g., plan duration) and bad in others (e.g., time delays in disseminating information). Median values presented throughout the report are arrived at as follows:

(1) For samples with an odd number (N_O) of observations, the median is the value of observation Number $[(N_O - 1)/2 + 1]$, when the observations in the sample are arranged in ascending order of value from observation Number 1 to Number N_O.

(2) For samples with an even number (N_E) of observations, the median is halfway between the values of Number $N_E/2$ and Number $N_E/2+1$, when the observations in the sample are arranged in ascending order of value from observation Number 1 to Number N_E.

(3) For medians involving time intervals, zero values were not included in the computation.

Presentation of Results

ACCES measures are grouped into nine major categories: General; Information Handling (Incoming); Tracking the Situation; Information Congruence; Course of Action Prediction; Preparation of Directives; Information Handling (Outgoing); Decision Context; and Exercise Factors. Each category includes primary and subordinate measures. In some cases the subordinate measures are sub-elements of the primary measures, while in other cases they are related to the primary measures but are stated in different terms and cannot be directly "rolled-up" into the primary measures.

Results are presented in this chapter by measure categories, with an overall summary of the division's C2 performance in each category. Within each category, quantitative results are presented for the primary measures and for those significant subordinate measures that cannot (or should not) be rolled up into the primary measures. Narrative comments are included where scores for individual measures are important to understanding the overall C2 performance or the results in that particular category. Values for all primary and subordinate measures are presented in Appendix A. Appendix C provides raw, unreduced data for those cases where access to raw scoring data may be informative to the reader. For example, for measures where only median values are presented in the body of the report and in Appendix A, the raw data from which the medians were calculated are presented in Appendix C.

In interpreting the tabled values for the various measures, it is important to note that many of the values are based on relatively few observations. Thus, percentage values are followed by brackets [ ] which contain the values of the numerator and denominator used to calculate the percentage. Values which are medians are followed by irregular brackets { } which contain the total number of observations in that cell and the number of those observations which were zero in value. As discussed above, it is also important to note that the values presented are based on the observations made; they represent only a sample of the total actions of the division staff. Thus, for example, the statement that "there were five formal situation assessments made during day 2 of the exercise" should be interpreted to read: "there were five formal situation assessments during day 2 of the exercise which ACCES observers heard and recorded in sufficient detail to be able to describe on the relevant data sheet."

Results.

Category G: General Measures This category addresses the planning process within the division and assesses the effectiveness of the products of that process. Measures include planning cycle times under varying degrees of urgency; the percentage of plans developed through unit initiative, as opposed to those developed in response to enemy actions; the length of time plans remained in effect without change; the percentage of plans that could be executed without change; and the percentage that could be executed successfully, either with or without changes.

The terms "plans" and "directives" are used in all measures in this category. As shown in Figure 3, plans comprise the four elements of Mission, Task Organization, Schedule, and Boundaries. Plans are implemented by directives, which also describe plans to those tasked to implement them. A directive, by definition, contains some or all elements of the plan it implements and may take any one of several forms, written or oral, formal or informal.

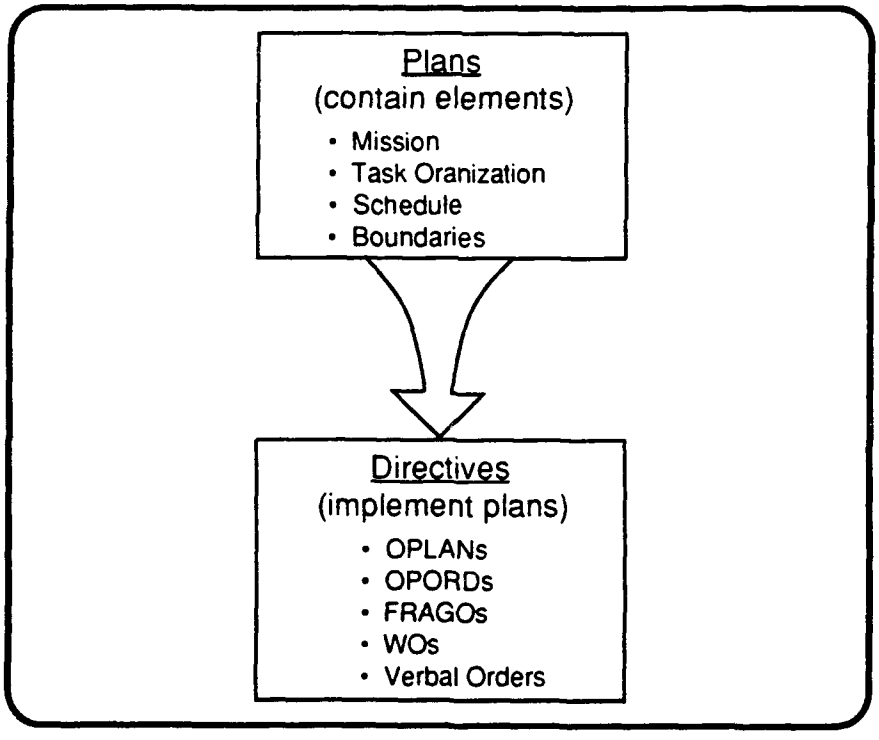


Figure 3. Plans and Directives

Results for these measures and others throughout the report are presented by exercise day, Day 1 being the period from the start of the exercise (2045) until the first midnight, Day 2 being the next 24 hour period, and so on. Day 5 includes the time from 0001 on Day 5 until exercise termination (2200). Local time is used for all data recording unless otherwise specified. ACCES scores are presented for the individual command posts (CPs) at

division and brigade levels. A combined score for a CP for the 5 days of the exercise is designated as "Aggregate," while a combined score for all CPs, for all 5 days, is designated as "All."

G.1.0 Plan Duration. Median length of time (in hours) plans stay in effect without changes to any major elements beyond the contingencies stated in the plan. Computation: [time the plan ends minus time the plan is implemented].

Table 1

Plan Duration (Hours)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	14.0	3.5	3.0	-	-	12.0

Scores for this measure were based on the 13 FRAGOs issued by the division. All FRAGOs were issued by DMAIN. The median plan duration was 12 hours; however, on Days 2 and 3 four plans had duration times of less than four hours. This was due to mission and schedule changes necessitated by congestion on the main supply routes (MSRs) delaying the advance of division units. Median values for plan duration could not be derived for Days 4 and 5, as a plan implemented on Day 4 was still in effect at ENDEX, 29.9 hours later, as was a Day 5 plan that had been in effect for 12 hours. Duration of the division's plans, as shown in Figure 4, reflects the battle activity; long duration plans in first days during marshalling operations, short duration plans during initial contact, and longer duration plans again during preparation for and conduct of the defense.

G.2.0 Plan Stability. Percentage of time that plans remain in effect (without major change) throughout their intended lives. Computation: [total plan duration ÷ total intended plan duration].

Table 2

Plan Stability (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	80 [54.5/68.5]	18 [29.1/161.2]	6 [3.0/32.0]	100 [26.3/26.2]	-	39 [112.9/288]

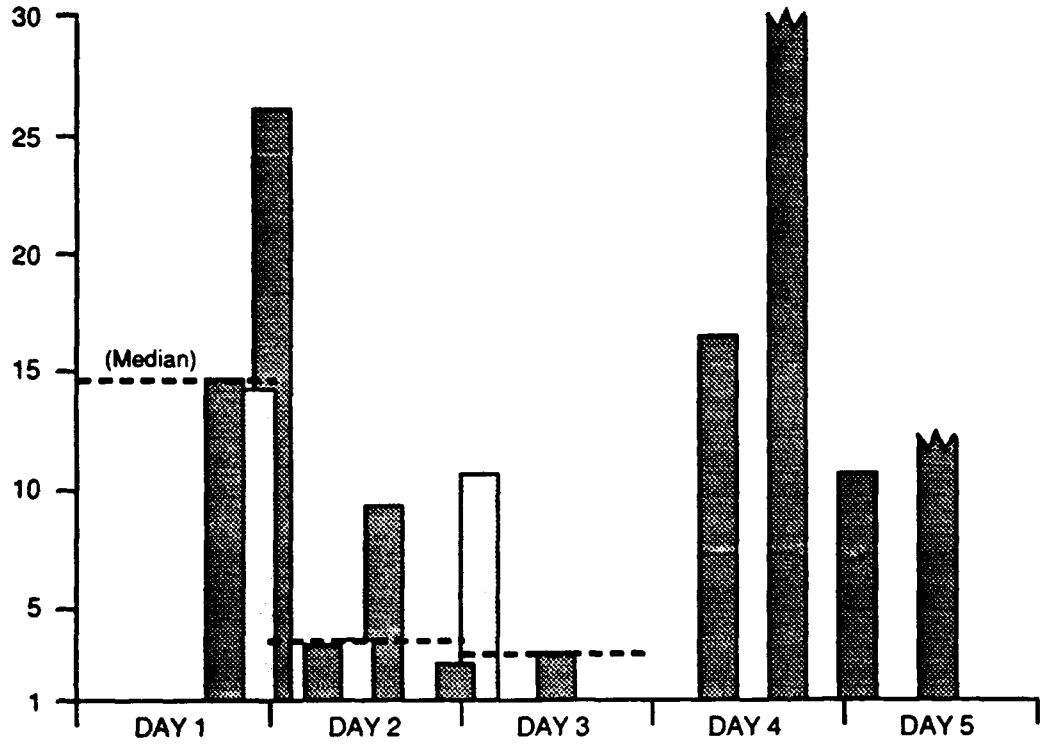


Figure 4. Plan Duration

Of the 13 FRAGOs used to score Plan Duration (G.1.0), two could not be scored under this measure because their intended lives could not be determined. Of the other eleven, only two remained in effect for the duration of their intended lives. The pre-prepared OPLAN implemented by the division early in the exercise remained stable. As the exercise progressed and units were attrited, mission, task organization, and schedules were changed to maintain combat power. Plan stability decreased from approximately 80% on Day 1 to below 10% on Day 3. During Days 2 and 3 many plan changes were made to speed up movement to the front. Plan stability could not be assessed completely on Days 4 and 5 because some plans implemented after Day 3 were still in effect or had not been implemented fully at ENDEX. The two plans that were implemented on Day 4 and completed prior to ENDEX were both stable for the period of their intended lives.

G.3.0 Planning Effectiveness. Percentage of plan elements that remain in effect (without change beyond contingencies included in the plan) during the period of plan execution. Computation: [total # of plan elements surviving ÷ total # of plan elements].

Table 3

Planning Effectiveness (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	58 [7/12]	65 [13/20]	25 [1/4]	58 [7/12]	50 [2/4]	58 [30/52]

Less than 60% of plan elements remained in effect during execution of the 13 plans scored. On some occasions the division underestimated the enemy's combat capabilities when planning for an attack. As a result task organizations and missions had to be changed to bring sufficient power to bear against the stronger-than-anticipated enemy force. Plans also changed when reinforcements could not make it through the MSRs. Boundaries generally remained stable, despite other plan changes, with only a single boundary change made to coordinate division fires with the unit on the right flank.

G.4.0 Plan Success. The percentage of plans that are dominant (can be executed without change) or are adaptive (can be executed with changes within the contingencies included in the plan). The remainder of plans are unsuccessful (cannot be executed without major change). Computation: [(# of dominant plans + # of adaptive plans) ÷ total # of plans].

Table 4

Plan Success (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	0 [0/3]	0 [0/5]	0 [0/1]	0 [0/3]	0 [0/1]	0 [0/13]

None of the plans issued could be completed fully without changes, and only the original OPLAN contained contingency plans, of which none were implemented because the battle situation did not develop as anticipated in the contingencies. The lack of contingency planning and inability to

execute any plan without significant changes caused all plans to be unsuccessful.

G.5.0 Planning Initiative. Percentage of directives that are proactive (assume friendly force dominance) or are contingent (seem to assume changes in friendly actions may be forced by the enemy). The remainder of directives are reactive (seem to assume the enemy has the initiative). Computation: [(# of proactive directives + # of contingent directives) ÷ total # of directives].

Table 5

Planning Initiative (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	100 [2/2]	88 [7/8]	100 [4/4]	33 [1/3]	-	83 [14/17]
DTAC	-	100 [5/5]	100 [3/3]	0 [0/1]	0 [0/2]	73 [8/11]
DREAR	-	-	100 [1/1]	-	-	100 [1/1]
3d Bde	100 [1/1]	100 [1/1]	100 [1/1]	-	-	100 [3/3]
All	100 [3/3]	100 [9/9]	100 [9/9]	25 [1/4]	0 [0/2]	81 [26/32]

During the first day and a half of the exercise the division was moving to contact and issued proactive directives that facilitated moving units to objectives as rapidly as possible with maximum combat power. These directives involved mainly schedule and task organization changes. As the division progressed further into the battle area (Days 4 and 5) and encountered heavy enemy artillery fire, reactive directives were issued to reconstitute attrited friendly units and to attempt to destroy enemy divisional and higher level artillery. There was a lack of contingency planning on the division's part throughout the exercise.

G.6.0 Planning Cycle Time. Median time (hours) required to complete a planning cycle. Computation: [time directive issued - time stimulus perceived].

Table 6

Planning Cycle Time (Hours)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	10.8 [1]	15.3 [2]	-	-	14.8

FOOTNOTE:

[1] Values: 6.9, 14.8
[2] One observation

Although there were a large number of directives (32) issued by the division, many of them were informal and had no observed relationship to planning conducted by the division staff. Of those directives that could be identified as the product of a formal planning process only three could be scored for this measure, as the times the planning stimuli were perceived could not be determined in the other cases. Because a majority of the plans were developed under the pressure of failures of the plans in effect, it is unlikely that the median of 14.8 hours is representative of the true planning cycle time.

Summary of observations related to General measures. Established plans implemented before start of the exercise (STARTEX) remained stable until the division made contact with enemy. The division shifted from offense to defense twice on day 3, and plans were cut short (changed) to gain the initiative. Only two plans remained in effect throughout the duration of their intended lives. The lack of contingencies included in division plans caused planning to become reactive as unanticipated situations arose and changes had to be made.

Category I: Incoming Information Handling Measures in this category deal with the punctuality, clarity, completeness, accuracy, and currency of situation reports received in the CPs and the impacts of the quality of reports on the planning process. ACCES data are collected on friendly situation reports (SITREPs), intelligence summaries (INTSUMs), spot reports on friendly and enemy activities, and weather/terrain reports and on the changes in plans that seem to be due to reporting of low quality.

[Note: the data collected did not support computation of the following measures.]

I.1.11 SITREP Punctuality. Percentage of SITREPs received early or on time, based upon unit SOP for reporting.

I.1.21 INTSUM Punctuality. Percentage of INTSUMs received early or on time, based upon unit SOP for reporting.

I.2.1 SITREP Completeness. Percentage of SITREPs that include all required elements (unit ID, unit location, capability, and combat activity). Computation: [# of complete SITREPs ÷ # of SITREPs received].

Table 7

SITREP Completeness (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DTAC	0 [0/2]	0 [0/1]	0 [0/1]	-	-	0 [0/4]
3d Bde	-	100 [4/4]	50 [1/2]	100 [1/1]	-	86 [6/7]
All	0 [0/2]	80 [4/5]	33 [1/3]	100 [1/1]	-	55 [6/11]

Over half of the 11 SITREPs received were complete, including most of those received by 3d Bde, but those received at DTAC lacked information on unit activity. This situation had little or no impact, as DTAC frequently updated its knowledge of activities through calls to the units.

[Note: only one INTSUM was captured by the data collectors; therefore, the following measures will not be discussed.]

I.2.2 INTSUM Completeness. Percentage of INTSUM that include all required elements (unit ID, unit location, capability, and combat activity).

I.3.2 INTSUM Non-Location Accuracy. Percentage of non-location INTSUM elements (unit ID, unit location, capability, and combat activity) that are correct in comparison with ground truth.

I.3.24 INTSUM Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

I.4.2 INTSUM Information Currency. Median age of the oldest INTSUM elements at time INTSUM was sent.

I.5.2 INTSUM Requests for Information. Percentage of missing or unclear INTSUM elements queried.

I.6.2 INTSUM Satisfaction. Percentage of INTSUMs that require no follow-up.

I.3.1 SITREP Non-Location Accuracy. Percentage of non-location SITREP elements that are correct in comparison with ground truth. Computation: [# of SITREP elements correct ÷ # of SITREP elements received].

Table 8

SITREP Non-Location Accuracy (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DTAC	100 [4/4]	100 [2/2]	100 [2/2]	-	-	100 [8/8]
3d Bde	-	100 [12/12]	100 [5/5]	100 [3/3]	-	100 [20/20]
All	100 [4/4]	100 [14/14]	100 [7/7]	100 [3/3]	-	100 [28/28]

All non-location information in the SITREPs received by the division CPs was found to be correct in comparison with ground truth. Although some SITREPs received were incomplete, the elements that were reported were accurate.

[Note: the data collected did not support computation of the following measures.]

I.3.14 SITREP Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

I.4.1 SITREP Information Currency. Median age of the oldest SITREP elements at time SITREP was sent.

I.5.1 SITREP Requests for Information. Percentage of missing or unclear SITREP elements queried. Computation [# of SITREP elements queried ÷ # of SITREP elements missing or unclear].

Table 9

SITREP Requests for Information (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DTAC	100 [4/4]	0 [0/1]	0 [0/1]	-	-	67 [4/6]
3d Bde	-	-	-	0 [0/1]	-	0 [0/1]
All	100 [4/4]	0 [0/1]	0 [0/1]	0 [0/1]	-	57 [4/7]

In the 11 SITREPs received, there were four unclear elements and three missing elements. Staff personnel at DTAC queried the unclear elements in the SITREPs received, but none of missing elements were queried.

I.5.15 Friendly Spot Reports Queried. Percentage of friendly spot reports with missing or unclear information that are queried. Computation: [# of friendly spot reports queried ÷ # of friendly spot reports with missing or unclear information].

Table 10

Friendly Spot Reports Queried (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	0 [0/1]	-	-	-	-	0 [0/1]
DTAC	-	71 [5/7]	60 [3/5]	67 [6/9]	-	67 [14/21]
DREAR	0 [0/1]	0 [0/2]	-	0 [0/1]	-	0 [0/4]
3d Bde	0 [0/5]	5 [1/22]	0 [0/10]	33 [1/3]	0 [0/1]	5 [2/41]
All	0 [0/7]	19 [6/31]	20 [3/15]	54 [7/13]	0 [0/1]	24 [16/67]

Since DTAC is the primary CP that fights the close battle for the division, one should expect that a large amount of information would be consolidated at this CP for use by the ADC (maneuver) and his staff in making crucial decisions. Staff personnel at DTAC were often dissatisfied with missing and unclear information, and they questioned many of the friendly spot reports received during critical phases of the operation. Staff personnel at other CPs demonstrated little concern about missing or unclear information elements.

I.5.25 Enemy Spot Reports Queried. Percentage of enemy spot reports with missing or unclear information that are queried. Computation: [# of enemy spot reports queried ÷ # of enemy spot reports with missing or unclear information].

Table 11

Enemy Spot Reports Queried (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DTAC	100 [1/1]	-	100 [1/1]	100 [5/5]	-	100 [7/7]
DREAR	-	0 [0/1]	0 [0/1]	-	-	0 [0/2]
3d Bde	-	20 [2/10]	0 [0/11]	0 [0/2]	0 [0/3]	8 [2/25]
All	100 [1/1]	18 [2/11]	8 [1/13]	71 [5/7]	0 [0/3]	26 [9/34]

In most of the 48 enemy spot reports received, enemy capability was either missing or unclear. DTAC noted and followed-up on missing and unclear elements, while 3d Bde essentially ignored the problems.

I.6.1 SITREP Satisfaction. Percentage of SITREPs that require no follow-up. Computation: [# of successful SITREPs ÷ # of SITREPs received].

Table 12

SITREP Satisfaction (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DTAC	0 [0/2]	100 [1/1]	100 [1/1]	-	-	50 [2/4]
3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
All	0 [0/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	82 [9/11]

Four elements were missing or unclear in the two SITREPs received at DTAC on Day 1. As most of the battle decisions were made at DTAC, this CP was quick to question unclear information. Only one element was missing in the seven SITREPs received at 3d Bde and the staff did not question it.

[Note: the data collected did not support computation of the following measures. The principal difficulty was that of establishing a "ground-truth" value to use for comparison with the observed data; revised procedures in later exercises alleviated this problem to some extent.]

I.7.11 Friendly Spot Report Currency. Median age of friendly spot report's information when transmitted.

I.7.21 Enemy Spot Report Currency. Median age of enemy spot report's information when transmitted.

I.8.1 Friendly Spot Report Non-Location Accuracy. Percentage of non-location friendly spot report elements (identification, capability, and combat activities) that are correct in comparison with ground truth.

I.8.14 Friendly Spot Report Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

I.8.2 Enemy Spot Report Non-Location Accuracy. Percentage of non-location enemy spot report elements (identification, capability, and combat activities) that are correct in comparison with ground truth.

I.8.24 Enemy Spot Report Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

I.9.11 Weather and Terrain Report Currency. Median age of information in weather and terrain when transmitted.

I.9.2 Weather and Terrain Report Accuracy. Percentage of weather and terrain report elements correct.

I.10.0 Report Impact on Plans. Percentage of plan changes not directly attributable to reporting problems (errors, lack of clarity, missing elements or lack of currency).

Summary of observations related to measures of the handling of incoming information. Key data elements needed to assess many of the measures in this category were not obtained in the data collection. As a result, few meaningful conclusions can be drawn about the quality of incoming information or its impact on the division's planning process.

Category T: Tracking the Situation The measures in this category focus on the ability of the staff to maintain a complete and accurate picture of the friendly and enemy situations. The measures also include the ability of the staff to develop useful predictions of enemy courses of action and to look far enough into the future to support the planning process. Finally, the impact of the quality of staff assessments on the effectiveness of planning is scored. Assessments of friendly and enemy situation are categorized into two categories: formal; and informal. "Formal" situation assessments occur when there is a recurring, periodic situation briefing by one or more staff officers; examples include shift-change briefings and the 0700 commander's briefing found in some units. "Informal" situation assessments occur whenever they are requested by a senior member of the command group or visiting senior officer, or whenever the TAC battle captain, for example, feels that it is important to reassess the current situation.

T.1.1 Completeness of Friendly Situation Assessments (FSAs). Percentage of formal FSAs that contained all six required elements (mission, task organization, disposition, activities, status and combat service support). Computation: [# of complete formal FSAs ÷ # of formal FSAs.

Table 13

Completeness of FSAs (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	0 [0/4]	-	0 [0/1]	-	0 [0/5]
DTAC	17 [1/6]	0 [0/19]	11 [1/9]	0 [0/10]	0 [0/3]	4 [2/47]
DREAR	-	0 [0/1]	-	-	-	0 [0/1]
3d Bde	0 [0/1]	0 [0/12]	0 [0/8]	0 [0/5]	0 [0/1]	0 [0/27]
All	14 [1/7]	0 [0/36]	6 [1/17]	0 [0/16]	0 [0/4]	3 [2/80]

Staffs at all levels prepared incomplete assessments of the friendly situation. Discussion of combat service support was missing more than 80% of the time, and discussion of task organization was missing more than 60% of the time. During formal briefings the FSAs included only unit activities. Incomplete FSAs led to a misunderstanding on Day 1 of the status of fuel at the refuel-on-the-move (ROM) sites, which held up progress in movement of a brigade. Missing CSS elements in FSAs necessitated several "quick looks" to identify possible shortages of FASCAM and artillery ammunition.

T.1.2 Completeness of Enemy Situation Assessments (ESAs). Percentage of the ESAs that included the five required elements (composition, disposition, combat power, activities, and courses of action). Computation: [# of complete formal ESAs ÷ # of formal ESAs conducted].

Table 14

Completeness of ESAs (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	0 [0/3]	-	0 [0/1]	100 [1/1]	20 [1/5]
DTAC	100 [2/2]	0 [0/6]	10 [1/10]	8 [1/12]	0 [0/4]	12 [4/34]
DREAR	-	0 [0/2]	-	-	-	0 [0/2]
3d Bde	33 [1/3]	50 [1/2]	100 [1/1]	-	-	50 [3/6]
All	60 [3/5]	8 [1/13]	18 [2/11]	8 [1/13]	25 [1/5]	17 [8/47]

Staffs throughout the division prepared incomplete ESAs. Discussion of enemy composition was missing more than half of the time, and disposition and combat power were missing from more than 40% of the ESAs. During formal briefings the ESAs included only information on enemy unit activities. Lack of information on combat capability and composition of enemy forces caused problems for the division in determining the proper disposition of friendly forces. A lack of information on enemy air defense was the cause of significant losses of helicopter assets on Day 4.

T.2.1 Accuracy of FSAs. Percentage of FSAs (either formal or informal, complete or incomplete) found to be correct or not incorrect through comparison with ground truth data and events that occurred as the exercise progressed. An assessment is judged to be "not incorrect" if the ground truth is found among a set of alternate possibilities considered, even if it is not the possibility judged to be most likely. Computation: [(# of correct FSAs + # of not incorrect FSAs) ÷ total # of FSAs evaluated].

Although formal FSAs generally lacked many of the elements required, FSAs (formal and informal) conducted within the division were highly accurate in information content and conclusions.

Table 15

Accuracy of FSAs (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	95 [20/21]	100 [8/8]	100 [4/4]	-	97 [32/33]
DTAC	75 [3/4]	100 [14/14]	86 [6/7]	80 [4/5]	100 [4/4]	91 [31/34]
DREAR	100 [1/1]	100 [1/1]	-	-	-	100 [2/2]
3d Bde	-	86 [6/7]	100 [5/5]	-	-	92 [11/12]
All	80 [4/5]	95 [41/43]	95 [19/20]	89 [8/9]	100 [4/4]	94 [76/81]

T.2.2 Accuracy of ESAs. Percentage of ESAs (either formal or informal, complete or incomplete) found to be correct or not incorrect in comparison with ground truth. Computation: [(# of correct ESAs + # of not incorrect ESAs) ÷ total # of ESAs evaluated].

Table 16

Accuracy of ESAs (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	86 [6/7]	88 [7/8]	89 [8/9]	60 [3/5]	83 [24/29]
DTAC	0 [0/1]	100 [4/4]	75 [3/4]	83 [5/6]	67 [2/3]	78 [14/18]
3d Bde	-	100 [3/3]	100 [2/2]	100 [1/1]	-	100 [6/6]
All	0 [0/1]	93 [13/14]	86 [12/14]	88 [14/16]	63 [5/8]	83 [44/53]

Despite the incomplete nature of formal ESAs conducted, ESAs (formal and informal) were fairly accurate in content and the conclusions drawn. However, the division did not use the available information effectively in formulating plans, as shown by the frequent shifts between offensive and defensive operations late on Days 2 and 3 of the exercise. The division generated proactive plans for an offensive operation against the enemy only to find there were more enemy forces with greater fire power than had been anticipated. In one case on Day 2 what was thought by the G-3 to be a "few roving guns" turned out to be somewhat more than an enemy field artillery battalion which exacted heavy attrition on friendly forces before its true

composition was understood. This caused the division to stop (defend), reconstitute, and eventually go on the offensive again.

T.3.0 Time Span of the Assessments. Median time (in hours) the assessments are intended to cover. Computation: Median time of all assessments [end of period assessment covers - time assessment expressed].

Table 17

Time Span of the Assessments (Hours)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	-	4.3	4.7	12.0	-	4.5
DTAC	12.0	4.0	6.0	12.0	2.5	9.0
DREAR	2.0 [1]	26.5 [2]	-	-	-	18.0
3d Bde	14.0	8.0 [3]	4.0 [1]	12.0 [1]	-	12.0
All	12.0	3.2	6.0	12.0	2.5	12.0

FOOTNOTES:

[1] One observation
[2] Values: 18.0, 35.0
[3] Values: 4.0, 12.0

There were a total of 127 formal situation assessments (friendly and enemy). Fifty-nine of these included time information that allowed them to be scored under this measure. Assessment time spans at DMAIN in particular were generally too short to allow for deliberate, thorough planning. This was particularly true on Days 2 and 3, when the division encountered unexpected enemy strength and had difficulty clarifying the true combat capabilities of units on both sides.

T.4.0 Assessment Impact on Plans. Percentage of changes made in plans that are not directly attributable to the quality of SAs supporting the planning process. Computation: [# of plan changes not due to quality of SAs ÷ total # of plan changes].

Table 18

Assessment Impact on Plans (%)

DAY					
1	2	3	4	5	AGGREGATE
80 [4/5]	57 [4/7]	0 [0/1]	33 [1/3]	-	56 [9/16]

As noted in comments on measures T.1.1, T.1.2, T.2.1, and T.2.2, the quality of both FSAs and ESAs impacted on the planning process. Incomplete and/or inaccurate information on both friendly and enemy situations resulted in the issuance of plans that had to be changed as the true situation became known. Poor quality FSAs and ESAs and subsequent poor planning led to loss of battle momentum and significant friendly personnel and equipment losses.

Summary of observations related to measures of Tracking the Situation. Results in this category show that the division staffs were able to formulate rather accurate assessments of both the friendly and enemy situations but, at DMAIN, were unable to project the assessments far enough into the future to allow for thorough, deliberate planning. The other major weakness in the situation assessments was that they were consistently incomplete and the information omitted was key to developing successful plans. As a result the division had to revise its plans frequently because situations arose often that had not been considered in the development of the plans.

Category IC: Information Congruence. The measures in this category address the consistency of information held by the various cells within CPs (Intra-CP) and among different CPs (Inter-CP). Measures also include the staffs' abilities to recognize the need for and conduct timely coordination to harmonize information and synchronize actions. Information congruence is dependent upon timely and accurate sharing of information among elements of the organization on both the friendly and enemy situation. Incongruent information among cells and CPs will lead to confusion and uncoordinated, ineffective planning.

[Note: the following two measures require capturing and comparing assessments made at two separate locations at roughly the same time, and with discussion of the same topic(s). Data collected during this exercise contained no such data-pairs.]

IC.1.0 Intra-Command Post (CP) Agreement on the Battlefield Picture. Percentage of agreement among cells within CPs on SAs of friendly and enemy forces.

IC.2.0 Inter-CP Agreement on the Battlefield Picture. Percentage of agreement among CPs on SAs of friendly and enemy forces.

IC.3.1 Intra-CP Coordination Cycle Time. Median time (in hours) between recognition of a need for coordination and resolution of the issue. Coordination is action taken to harmonize the activities of two or more units or elements within units. For example, a unit operating on the flank of another would need to effect periodic coordination of the movement of elements to insure that no gaps were allowed to open. Within a CP one cell might coordinate with another to insure the two cells were operating from the same information base and were synchronized in their planning. Computation: Median of coordination times within CPs [time of resolution - time need for coordination is perceived].

Note: As discussed on page 10 above, the medians presented in Table 19 below and similar tables are computed based on non-zero values only. The median value in each cell of the table is followed by brackets {} containing the total number of coordinations recorded and the number of zero-value coordinations. For example, on Day 1 at all CPs there were five coordinations conducted, of which two were completed instantaneously. The median time for the other three (non-zero values) was 0.8. These results are indicated by the notation 0.8 {5 | 2}.

There were 81 situations where a need for coordination was perceived, and 66 attempts at coordination were observed. Of the attempts, only 36 could be scored, as in the other 30 cases the observers did not capture either the time the need for coordination was perceived or the time of resolution. A third of the 36 coordinations were completed instantaneously while others were

Table 19

Intra-CP Coordination Cycle Time (Hours)

CP	DAY 1	2	3	4	5	AGGREGATE
DMAIN	-	1.3 {3|2}	1.7 {3|0}	3.4 {1|0}	-	1.7 {7|2}
DTAC	0.8 {3|0}	1.7 {8|1}	0.2 {2|0} [1]	0.2 {4|1}	.1 {2|1}	0.8 {19|3}
3d Bde	___ {2|2}	0.1 {6|5}	0.4 {2|0} [2]	-	-	0.1 {10|7}
All	0.8 {5|2}	1.3 {17|8}	0.3 {7|0}	0.4 {5|1}	.1 {2|1}	0.7 {36|12}

FOOTNOTES:

[1] Non-zero values: 0.1, 0.3
[2] Non-zero values: 0.1, 0.7

completed in a timely manner. One notable exception was at DMAIN on Day 3 when six hours were required to coordinate the contents of a FRAGO. Figure 5 below illustrates the various possibilities involved in the outcomes of coordinations that were required.

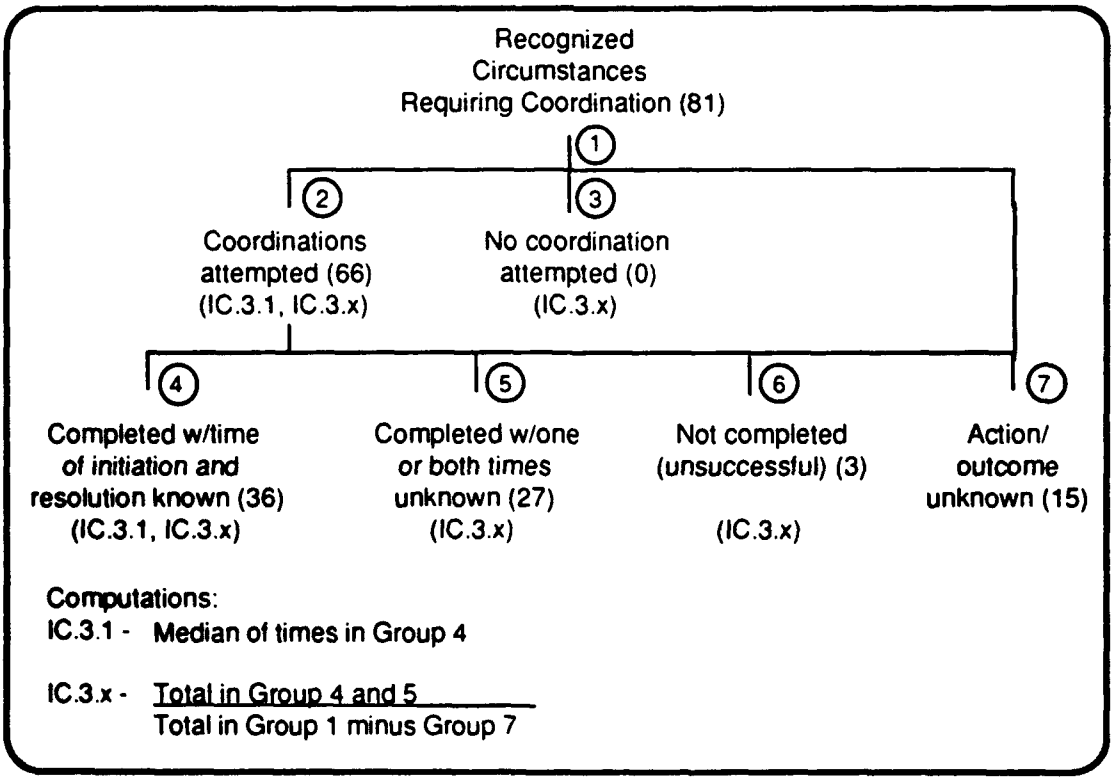


Figure 5. Intra-CP Coordination Outcomes

IC.3.5 Intra-CP Coordination Success. Percentage of required coordinations successfully completed. Computation: [# of coordinations completed ÷ # of number required coordinations recognized].

Table 20

Intra-CP Coordination Success (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	100 [2/2]	100 [4/4]	100 [3/3]	100 [2/2]	-	100 [11/11]
DTAC	100 [3/3]	100 [9/9]	100 [2/2]	100 [6/6]	100 [2/2]	100 [22/22]
DREAR	-	-	-	100 [1/1]	-	100 [1/1]
3d Bde	100 [2/2]	80 [8/10]	95 [18/19]	100 [1/1]	-	97 [29/32]
All	100 [7/7]	91 [21/23]	95 [21/24]	100 [10/10]	100 [2/2]	95 [63/66]

As noted in comments on IC.3.1, and shown in Figure 5, 81 situations were noted where coordinations were needed, and 66 coordinations were attempted. 63 of the attempts were successfully completed. Of the remaining 15 cases where coordination was needed, none were scored as unsuccessful, because the observer could not determine whether coordination was attempted and/or what the outcome was.

IC.4.1 Inter-CP Coordination Cycle Time. Median time (in hours) between recognition of a need for coordination and resolution of the issue. Computation: Median of coordinations between CPs [time of resolution - time need for coordination is perceived].

As shown in Figure 6 there were 114 situations where a need for coordination was perceived, and 107 attempts at coordination were observed. Of the attempts, only 45 could be scored, as the observers did not capture either the time the need for coordination as perceived or the time of resolution on the other 62. More than one half of the 45 coordinations were completed instantaneously, and the rest were completed in a timely manner.

Table 21

Inter-CP Coordination Cycle Time (Hours)

CP	DAY 1	2	3	4	5	AGGREGATE
DMAIN	___ {2|2}	0.3 {2|0} [1]	1.7 {5|1}	0.1 {4|1}	2.2 {2|0} [2]	1.6 {15|4}
DTAC	0.4 {1|0}	0.1 {3|2}	0.2 {2|0} [3]	0.5 {3|1} [4]	0.8 {4|1}	0.4 {13|4}
3d Bde	-	0.2 {13|10}	___ {3|3}	0.7 {1|0}	-	0.2 {17|13}
All	0.4 {3|2}	0.1 {18|12}	1.6 {10|4}	0.5 {8|2}	0.9 {6|1}	0.5 {45|21}

FOOTNOTES:

1 Non-zero values: 0.2, 0.4
2 Non-zero values: 1.0, 3.4
3 Non-zero values: 0.1, 0.2
4 Non-zero values: 0.4, 0.6

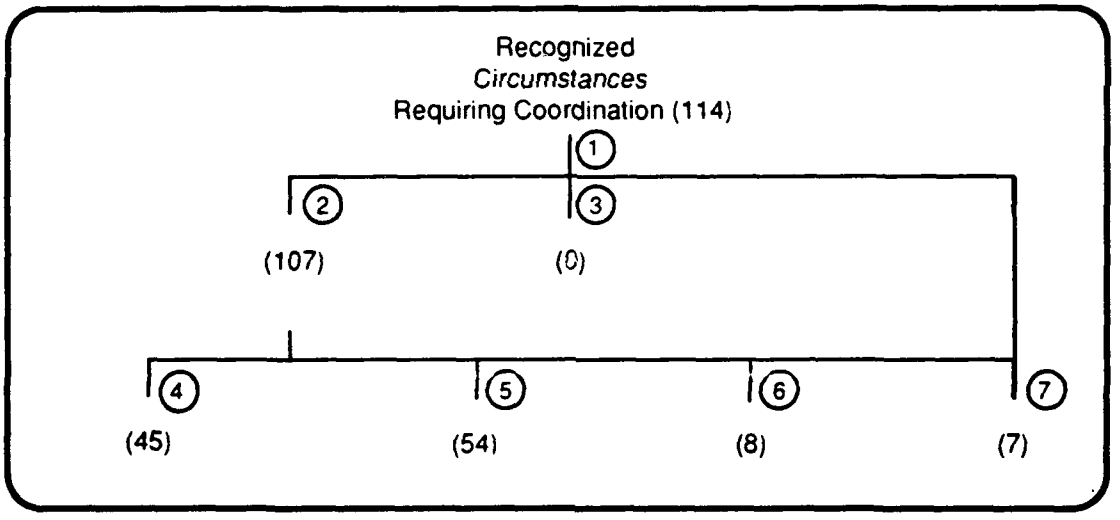


Figure 6. Inter-CP Coordination Outcomes
(See Figure 5 for description of table elements.)

IC.4.5 Inter-CP Coordination Success. Percentage of required coordinations successfully completed. Computation: [# of coordinations completed ÷ # of required coordinations recognized].

Table 22

Inter-CP Coordination Success (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	100 [3/3]	75 [6/8]	100 [6/6]	100 [6/6]	100 [3/3]	92 [24/26]
DTAC	67 [2/3]	100 [4/4]	100 [1/1]	100 [3/3]	100 [4/4]	93 [14/15]
3d Bde	60 [3/5]	95 [21/22]	72 [21/29]	100 [10/10]	-	92 [61/66]
All	72 [8/11]	91 [31/34]	78 [28/36]	100 [19/19]	100 [7/7]	93 [99/107]

As noted in comments on IC.4.1 and in Figure 6, 114 situations were noted where coordinations were needed, and 107 coordinations were attempted. Of the attempts 99 were successfully completed, while eight were unsuccessful. The seven instances where attempts at coordination were not observed are not scored, as there is no hard evidence that the unit did or did not attempt to coordinate.

IC.5.0 Inter-CP Consistency of Directives. Percentage of directives issued by alternate CPs that do not conflict with those issued by the primary CP. The primary CP is defined as the CP where tactical decisions are made and directives issued for conduct of the close battle. Other CPs are considered alternates only when they assume control of the close battle from the primary CP. Computation: [# of non-conflicting directives ÷ # of directives issued].

DTAC was the primary CP for the division throughout most of the exercise. DTAC relinquished control of the close battle only once, on Day 4, while it executed a short tactical move. During this period DMAIN, the alternate CP, issued no directives. Therefore, there are no data to apply to assessment of this measure.

IC.6.0 Coordination Impact on Plans. Percentage of changes in plans not attributable to coordination. Computation: [# of plan changes not attributable to coordination ÷ total # of plan changes].

Coordination between cells within CPs and coordination between CPs were highly successful and did not appear to have any negative impact on plan changes.

Summary of observations related to measures of information congruence. Consistency of information within and among CPs could not be evaluated, as data on situation assessments could not be correlated to allow comparisons to be made. Coordinations were generally completed in a timely manner and were successful in more than 90% of the instances that could be evaluated. It appears that no problems in the planning process can be attributed to coordination issues.

Category PC: Predict Courses of Action. The measures in this category address the ability of the staff to generate and analyze alternative courses of action (COAs) and to predict accurately the consequences of those COAs. One of the presumed benefits of a staff is the potential for obtaining multiple points of view and sources of information during the planning process. Several of the measures in this category address the extent to which the unit did have involved several people with different perspectives. Evaluation of prediction "accuracy" is accomplished by comparing the COA outcomes predicted by the staff with the actual outcomes. Data elements considered include each COA generated and analyzed, together with the number of staff members and staff sections involved in the decision process over a period of time.

PC.1.0 Number of Participants - COAs. Median number of staff members who participated actively in developing and assessing COAs.

Table 23

Number of Participants - COAs

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	6.5 [1]	5	8	3.5 [2]	4	5
DTAC	10	5	7	2	5	7
DREAR	-	7	-	-	-	7
3d Bde	2	1	-	-	-	1
All	5	5	7	2	5	5

FOOTNOTES:

[1] Values: 5, 8

[2] Values: 1, 6

The level of participation in COA analysis seems adequate. In DTAC the approach often taken was to gather most of the staff members present and solicit their contributions to the process leading to a relatively high level of participation. At 3d Bde courses of action were generally developed by the S3 alone.

PC.2.0 Variety of Participants - COAs. Median number of staff sections that were represented actively in COA development and assessment.

At least two staff sections participated in the development and assessment of COAs, except at the 3d Bde where the S3 developed and assessed them without input from other sections.

Table 24

Variety of Participants - COAs

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	4 [1]	4	5	3 [2]	2	4
DTAC	7	3	3	2	3	3
DREAR	-	3	-	-	-	3
3d Bde	1	1	-	-	-	1
All	3	3	3	2	3	3

FOOTNOTES:

[1] Values: 3, 5
[2] Values: 2, 4

PC.3.0 Alternative COAs. Median number of COA explicitly considered in the development of each plan.

Table 25

Alternative COAs

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	2 [1]	2	4 [2]	2	-	2
DTAC	2 [2]	2	1	2 [2]	1	2
DREAR	-	3 [2]	-	-	-	3 [2]
3d Bde	3 [2]	2	-	-	-	2
All	2	2	1	2	1	2

FOOTNOTES:

[1] Values: 1, 3
[2] One observation

In general, the division considered more than one course of action in the development of each of its plans. When only one course of action was considered, the division was involved in reconstitution or planning actions for immediate defense, and the options for action were limited.

PC.4.0 Completeness of COA Analysis. Percentage of COA analyses that included all required elements (enemy reaction, mission accomplishment, friendly capacity and enemy capacity). Computation: [# of complete COA analyses ÷ total # of COA analyses conducted].

Table 26

Completeness of COA Analysis (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	100 [2/2]	50 [3/6]	100 [1/1]	50 [1/2]	100 [1/1]	67 [8/12]
DTAC	100 [1/1]	20 [1/5]	100 [3/3]	100 [1/1]	25 [1/4]	50 [7/14]
DREAR	-	0 [0/1]	-	-	-	0 [0/1]
3d Bde	0 [0/1]	0 [0/3]	-	-	-	0 [0/4]
All	75 [3/4]	27 [4/15]	100 [4/4]	66 [2/3]	40 [2/5]	45 [15/31]

Out of the 58 COAs considered by the division, data were collected on the content of only the 31 that were utilized in preparing plans issued. COA analyses generally lacked at least one required element. The most frequently missing elements were the predicted enemy reaction and enemy capacity (combat capability). When predictions were made for these elements, they were incorrect (see PC5.0 below). The impact of omitting these elements can clearly be seen in the setbacks suffered by the division when it encountered unexpectedly strong opposition.

PC.5.0 Accuracy of COA Analysis. Percentage of COA analyses found to be correct or not incorrect when evaluated in comparison with ground truth data and events that occurred during execution of the plan. Computation: [(# of correct COA analyses + # of not incorrect COA analyses) ÷ total # of COA analyses evaluated].

Of the 31 COAs that were selected for implementation in the plans that were issued, the contents of only 20 could be correlated with ground truth data for comparison purposes. Predictions of enemy reaction and estimations of enemy combat capacity were incorrect in three of the COA analyses. This could be linked to the incompleteness of enemy spot reports used in the analyses. The remainder of the analyses proved to be accurate.

Table 27

Accuracy of COA Analysis (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	100 [2/2]	100 [6/6]	0 [0/1]	-	-	89 [8/9]
DTAC	-	75 [3/4]	100 [2/2]	-	75 [3/4]	80 [8/10]
DREAR	-	100 [1/1]	-	-	-	100 [1/1]
All	100 [2/2]	91 [10/11]	67 [2/3]	-	75 [3/4]	85 [17/20]

PC.6.0 COA Analysis Time Span. Median time (in hours) the COA analyses are intended to cover. Computation: Median time span of all COA analyses [end of period analysis covers - time assessment expressed].

Table 28

COA Analysis Time Span (Hours)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	7.5 [1]	19.0	19.0	48.0[2]	12.0	19.0
DTAC	48.0	12.0	1.5	12.0	13.0	12.0
3d Bde	6.0	4.0	-	-	-	5.0
All	9.0	9.0	7.8	24.0	7.7	12.0

FOOTNOTES:

[1] Values: 3.0, 12.0
[2] Values: 24.0, 72.0

Comments. As might be expected, the temporal focus of the staff at 3d Bde was relatively short, while at DTAC analyses looked further into the future, except on Day 3 where COAs were developed in reaction to a rapidly changing situation. Also, as expected, COA analyses at DMAIN generally covered a greater period than at the other CPs.

PC.7.0 COA Impact on Planning. Percentage of changes made in plans that are not directly attributable to the quality of COA analyses supporting the planning process. Computation: [# of plan changes not due to quality of COA analyses ÷ total # of plan changes].

Indications are that missing and inaccurate predictions of enemy reactions and underestimations of enemy combat capabilities necessitated some plan changes to develop adequate combat power in the division area of operations.

Summary of observations related to predicting courses of action. The level of representation by personnel from different staff sections during COA development and analyses was adequate to provide a variety of information and viewpoints. More than one COA were considered in the development of most plans. COA analyses looked well into the future and were generally accurate and complete, with the exception of several omissions and errors made in predicting enemy reactions and estimating enemy capabilities to respond to friendly actions. These omissions and errors were detrimental to the success of the division plans.

Category PD: Preparation of Directive Measures. Measures in this category examine the clarity, timeliness, and accuracy of all directives and orders. Specific information collected includes the number of directives requiring clarification, the timing of all phases of the directives, the portion of C2 planning cycle time available to subordinate units and the number of staff members and sections involved in developing directives. Also addressed is the degree to which directives match with the commander's guidance concerning a particular operation.

PD.1.0 Number of Participants - Directives. Median number of staff members who participated actively in developing and/or assessing directives.

Table 29

Number of Participants - Directives

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	5	5	7	2	-	5
DTAC	-	7	7	5	5 [1]	7
DREAR	-	-	8	-	-	8
3d Bde	-	1.5 [2]	-	-	-	1.5 [2]
All	5	5	7	3	5 [1]	5

FOOTNOTES

[1] Values: 3, 7
[2] Values: 1, 2

The numbers of personnel involved in directive preparation were generally similar to those in COA development/analysis.

PD.2.0 Variety of Participants - Directives. Median number of staff sections that were represented in directive development and assessment.

Table 30

Variety of Participants - Directives

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	3	3	4	2	-	3
DTAC	-	4	4	3	2.5 [1]	3
DREAR	-	-	4	-	-	4
3d Bde	-	1	-	-	-	1
All	3	3	4	2	2.5 [1]	3

FOOTNOTES:

[1] Values: 2, 3

Most staff sections participated in the development and assessment of at least one directive. Generally, personnel from the G-2 and G-3 sections in division CPs participated in the development and assessment of all directives. At the 3d Bde directives were prepared by the S3 without input from other sections.

[Note: the data collected did not support computation of the following four measures.]

PD.3.0 Directive Preparation Time. Median of the times required to prepare directives after decisions were reached on the COAs to be implemented.

PD.4.0 Warning Order Time. Median of the time intervals from decisions on COAs to be implemented to issuance of warning orders.

PD.5.0 Directive Time Span. The median of the time spans over which directives are expected to remain in effect.

PD.6.0 Directive Match with Commander's Intent. Percentage of directive elements that are consistent with the elements of the commander's stated decision.

PD.7.0 Clarity of Directives. Percentage of directives that do not require clarification by the issuing headquarters. Computation: [# of directives not requiring clarification ÷ total # of directives issued].

Table 31

Clarity of Directives (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	50 [1/2]	80 [28/10]	75 [3/4]	67 [2/3]	-	74 [14/19]
DTAC	-	80 [4/5]	100 [3/3]	0 [0/1]	100 [2/2]	82 [9/11]
DREAR	-	-	100 [1/1]	-	-	100 [1/1]
3d Bde	-	100 [2/2]	100 [1/1]	-	-	100 [3/3]
All	50 [1/2]	82 [14/17]	89 [8/9]	50 [2/4]	100 [2/2]	84 [27/32]

Over 80 percent of the directives issued did not require clarification. Of those directives requiring clarification the concerns were in the areas of task organization, schedules, boundary changes, defense of CSS assets, and utilization of combat power.

[Note: the data collected did not support computation of the following two measures.]

PD.8.0 Lead Time for Directive Planning. Median time (in hours) available to subordinate commands for planning, from time directive is received until time it is to be implemented.

PD.9.0 Warning Order Lead Time. Median time available to subordinate commands for planning, from time warning order is received until time directive is to be implemented.

PD.10.0 Directive Impact on Plans. Percentage of directives that can be fully implemented on time. Computation: [# of directives fully implemented on time ÷ total # of directives].

Of the 32 directives implemented by the division, seven could not be scored because data were not collected on times of intended and/or actual implementation. Of the remainder all but three could be implemented on time. One directive was transmitted late, implementation of one was delayed by congestion on the axis of advance, and the third was delayed due to delays in executing the previous plan.

Table 32

Directive Impact on Plans (%)

	DAY					
CP	1	2	3	4	5	AGGREGATE
DMAIN	50 [1/2]	90 [9/10]	75 [3/4]	-	-	81 [13/16]
DTAC	-	100 [1/1]	100 [2/2]	100 [1/1]	100 [2/2]	100 [6/6]
DREAR	-	-	100 [1/1]	-	-	100 [1/1]
3d Bde	-	100 [1/1]	100 [1/1]	-	-	100 [2/2]
All	50 [1/2]	91 [11/12]	88 [7/8]	100 [1/1]	100 [2/2]	88 [22/25]

Summary of observations related to preparation of directives. Directive preparation involved a median of five representatives from three different staff sections. Timing of directive preparation phases could not be assessed because of a lack of data. Over 80% of the directives issued were understood by the receiving units and almost 90% of them could be implemented on time.

Category O: Outgoing Information Handling. Measures in this category deal with the punctuality, clarity, completeness, accuracy, and currency of situation reports sent by the command posts and the impact of the quality of reports on the planning process. Data are collected on friendly situation reports (SITREPs), intelligence summaries (INTSUMs) and weather/terrain reports and on the changes in plans that must be made because of poor quality reporting.

[Note: there were serious gaps in the collection of data required for computation of measures in this category. During the total exercise, ACCES observers collected only 2 SITREPs, 5 INTSUMs, 11 Friendly Spot Reports, and 2 Enemy Spot Reports. Where computation of the following measures was possible, the values may be found in tables in Appendix A, but no attempt is made to provide a detailed presentation here.]

O.1.11 SITREP Punctuality. Percentage of SITREPs sent early or on time, based upon unit SOP for reporting.

O.1.21 INTSUM Punctuality. Percentage of INTSUMs sent early or on time, based upon unit SOP for reporting.

O.2.1 SITREP Completeness. Percentage of SITREPs that contained the four elements required (unit ID, unit location, capability, and combat activity).

O.2.2 INTSUM Completeness. Percentage of INTSUMs that contained the four elements required (unit ID, unit location, capability, and combat activity).

O.3.1 SITREP Non-Location Accuracy. Percentage of non-location SITREP elements (unit ID, capability, and combat activity) that are correct in comparison with ground truth.

O.3.14 SITREP Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

O.3.2 INTSUM Non-Location Accuracy. Percentage of non-location INTSUM elements that are correct in comparison with ground truth.

O.3.24 INTSUM Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

O.4.1 SITREP Information Currency. Median age of the oldest SITREP elements at time SITREP was sent.

O.4.2 INTSUM Information Currency. Median age of the oldest INTSUM elements at time INTSUM was sent.

O.5.1 SITREP Requests for Information. Percentage of missing or unclear SITREP elements queried.

O.5.11 Friendly Spot Reports Queried. Percentage of friendly spot reports with missing or unclear information that are queried.

O.5.2 INTSUM Requests for Information. Percentage of missing or unclear INTSUM elements queried.

O.5.21 Enemy Spot Reports Queried. Percentage of enemy spot reports with missing or unclear information that are queried.

O.6.1 SITREP Satisfaction. Percentage of SITREPs that require no follow-up.

O.6.2 INTSUM Satisfaction. Percentage of INTSUMs that require no follow-up.

O.7.11 Friendly Spot Report Currency. Median age of friendly spot reports' information when transmitted.

O.7.21 Enemy Spot Report Currency. Median age of enemy spot reports' information when transmitted.

O.8.1 Friendly Spot Report Non-Location Accuracy. Percentage of friendly spot report non-location elements (identification, capability, and combat activities) that are correct in comparison with ground truth.

O.8.14 Friendly Spot Report Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

O.8.2 Enemy Spot Report Accuracy. Percentage of non-location enemy spot report elements (identification, capability, and combat activities) that are correct in comparison with ground truth.

O.8.24 Enemy Spot Report Location Accuracy. Median error in reported unit locations as compared to ground truth location data.

O.9.0 Report Impact on Plans. Percentage of plan changes not directly attributable to reporting problems (errors, lack of clarity, missing elements or lack of currency).

Summary of observations related to handling of outgoing information. Key data elements needed to assess most of the measures in this category were omitted in the data collection. As a result, no meaningful conclusions can be drawn as to the effectiveness of outgoing information handling or its impact on the division's planning process. Of the five INTSUMs transmitted by DMAIN, all were complete and none required clarification. Staff members at the 3d Bde were not questioned about the two SITREPs or

the missing and unclear information in the friendly spot reports they transmitted.

Category DC: Decision Context. Measures in this category focus on the decision making process in the unit. Measures include the positions of decision making authorities, the content and effects of decisions, whether contingencies were involved and what types of operations were involved.

DC.1.0 Decision Maker. Positions of individuals making decisions.

At DMAIN and DTAC the majority of decisions were made by the commander, ADC and G3/G3 assistants. Over half (54.3%) of DMAIN decisions were made in the plans cell, 34.7% were made in Current Ops, and 8.6% in Intel. Within the 3d Bde, the Commander and S3 made 93.7% of all decisions.

DC.2.0 Affected Units. Units that were affected by the decisions.

There were 26 different units affected by 86 decisions made by the division command and his staff (see Table 34).

DC.3.0 Decision Focus. Elements with which decisions were concerned.

Table 33

Decision Focus

	DMAIN	DTAC	DREAR	BDE	AGGREGATE
Mission	27	30	5	4	66
Task Org	10	10	1	2	23
Disposition	-	-	-	-	-
Supports	10	15	5	-	30
Schedules	6	7	-	1	14
Boundaries	7	8	1	1	17
Other	5	6	2	1	14
Unknown	2	2	-	-	4

During the exercise there were 168 decision elements that could be tracked. Of these, the focus of the majority was on mission (39%) with task organization (14%) and support (18%) the next most frequent (see Figure 7). This is as could be anticipated in a high threat environment where battle

Table 34

Affected Units

CP:		DAY 1	2	3	4	5
		Affected Units				
	DMAIN	1 Bde	2 Bde	Cbt Air Cav	DIVARTY	DIVARTY
		3 Bde	Div CHEM units	ACR	All Bdes	
		2 Bde		1 Bde	AVN units	
				3 Bde	Div ENG	
				2 Bde	ACR	
				Cav Trp	Inf Bn	
	DTAC	-	CBACC	2 Bde	2 Bde	1 Bde
			4 Bde	3 Bde	DIVARTY	DIVARTY
			3 Bde	DIVARTY	1 Bde	Div ENG
			2 Bde	4 Bde	Div Elements	ACR
			Div ENG		Div ENG	Cav
			DIVARTY		Cav Trps	
					Atk Helo Bn	
					FA Bn	
	DREAR	-	CBAC	2 Bde	2 Bde	1 Bde
			4 Bde	3 Bde	DIVARTY	ACR
			3 Bde	DIVARTY	1 Bde	Cav
			2 Bde	Arty Bn	Div ENG	DIVARTY
			Div ENG	MI Bn	Cav Div	
			DIVARTY		ATK Bn	
					Cav Trp	
					Inf Bn	
	3d Bde	MPs	USAF	2 Bde	-	-
				Cav Sqdn		

losses required frequent reconstitution of units and supplies were consumed rapidly to support the battle.

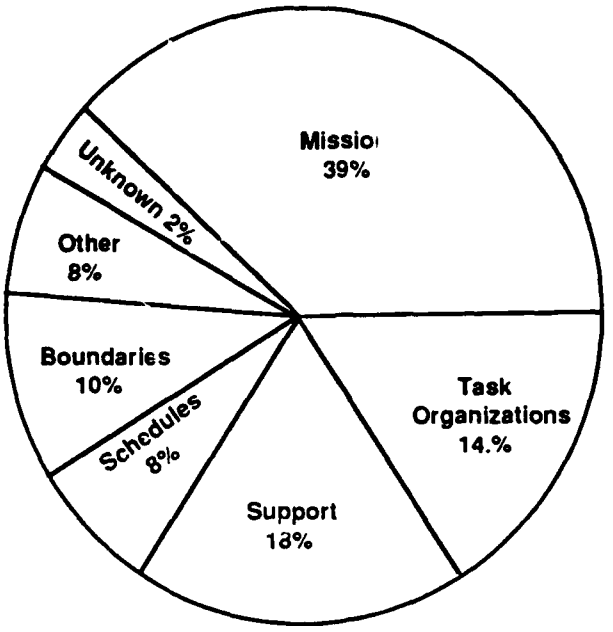


Figure 7. Decision Focus

DC.4.0 Contingency. Whether or not a contingency was activated by the decision.

No contingencies were activated during the exercise.

DC.5.0 Decision Time. Times at which the decisions were made.

There were a total of 86 decisions made during the exercise, for 78 of which times were recorded. The decisions were fairly evenly distributed across the exercise days, and there was little difference between the numbers of decisions made by day and night shifts. The only exception was on Day 3, when the division was preparing to go into a defensive posture; only two decisions were recorded by all the night shift observers.

DC.6.0 Type of Operation. The type of operation (offensive, defensive, and other) associated with each decision.

Operations were grouped into four categories (offensive, defensive, other, unknown). See Figure 8 below for breakout of the types of operation that were involved. The relatively high number of decisions associated with offensive operations reflects the many changes in plans that were forced by situations changes when the division was on the offensive.

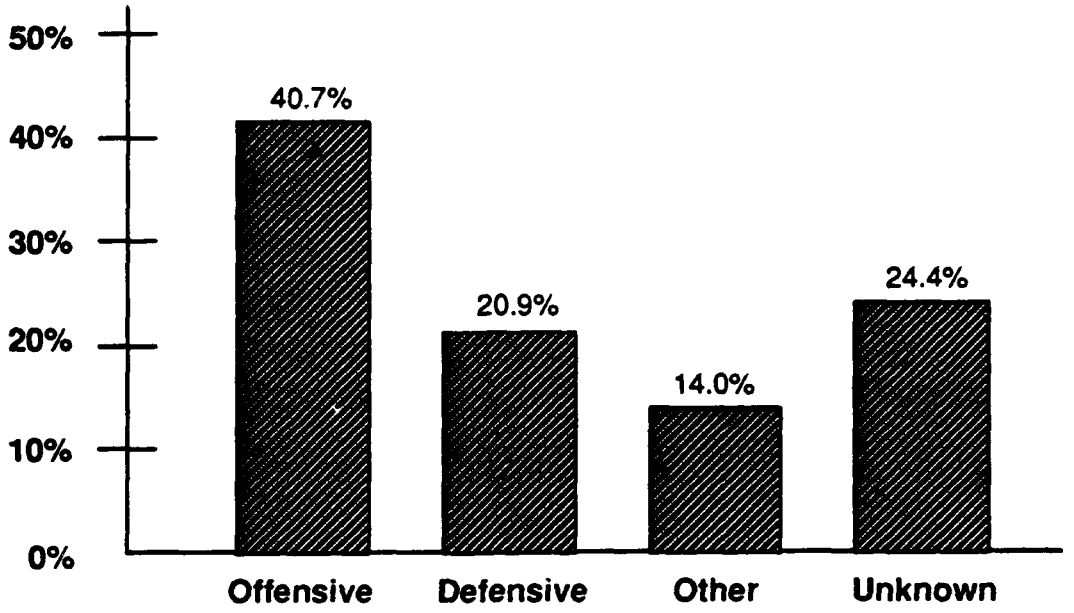


Figure 8. Types of Operations

Summary of observations related to the decision context. The principal decision makers within the division were the commanders, ADC(M), and G3/S3 operations officers. The prevalent operational focus of decisions was offensive, and the majority of decisions dealt with changes in plans necessitated by unexpected enemy reactions and capabilities.

Summary

The following provides a compilation of the summary comments, by ACCES measurement category, from each of the sections above.

General. Established plans implemented before start of the exercise (STARTEX) remained stable until the division made contact with enemy. The division shifted from offense to defense twice in two days, and plans were cut short (changed) to gain the initiative. Only two plans remained in effect throughout the duration of their intended lives. The lack of contingencies included in division plans caused planning to become reactive as unanticipated situations arose and changes had to be made.

Handling of incoming information. Key data elements needed to assess many of the measures in this category were not obtained in the data collection. As a result, few meaningful conclusions can be drawn about the quality of incoming information or its impact on the division's planning process.

Tracking the situation. Results in this category show that the division staffs were able to formulate rather accurate assessments of both the friendly and enemy situations but, at DMAIN, were unable to project the assessments far enough into the future to allow for thorough, deliberate planning. The other major weakness in the situation assessments was that they were consistently incomplete and the information omitted was key to developing successful plans. As a result the division had to revise its plans frequently because situations arose often that had not been considered in the development of the plans.

Maintaining information congruence. Consistency of information within and among CPs could not be evaluated, as data on situation assessments could not be correlated to allow comparisons to be made. Coordinations were generally completed in a timely manner and were successful in more than 90% of the instances that could be evaluated. It appears that no problems in the planning process can be attributed to coordination issues.

Predicting courses of action. The level of representation by personnel from different staff sections during COA development and analyses was adequate to provide a variety of information and viewpoints. More than one COA were considered in the development of most plans. COA analyses looked well into the future and were generally accurate, with the exception of several errors and omissions made in predicting enemy reactions and estimating enemy capabilities to respond to friendly actions. These errors and omissions were detrimental to the success of the division plans.

Preparation of directives. Directive preparation involved a median of five representatives from different staff sections. Timing of directive preparation phases could not be assessed because of a lack of data. Over 80% of the directives issued were understood by the receiving units and almost 90% of them could be implemented on time.

Handling of outgoing information. Key data elements needed to assess most of the measures in this category were omitted in the data collection. As a result, no meaningful conclusions can be drawn as to the effectiveness of outgoing information handling or its impact on the division's planning process. Of the five INTSUMs transmitted by DMAIN, all were complete and none required clarification. Staff members at the 3d Bde were not questioned about the two SITREPs or the missing and unclear information in the friendly spot reports they transmitted.

Decision context. The principal decision makers within the division were the commanders, ADC(M), and G3/S3 operations officers. The prevalent operational focus of decisions was offensive, and the majority of decisions dealt with changes in plans necessitated by unexpected enemy reactions and capabilities.

APPENDIX A
Scores for All ACCES Measures

CATEGORY G: GENERAL MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
G.1.0	Plan Duration (median in hours) [time the plan ends minus time the plan is implemented]							
	CP:	DMAIN	14.0 {3|0}	3.5 {5|0}	3.0 {1|0}	-	-	12.0 {9|0}
G.1.1	Mission Duration (median in hours) [time mission assignments changed minus time mission assignments established]							
	CP:	DMAIN	13.5 {2|0}[1]	9.0 {3|0}	22.0 {1|0}	22.4 {2|0}[2]	-	14.5 {8|0}

FOOTNOTE:

1 Non-zero values: 9.0, 14.5
2 Non-zero values: 15.0, 29.9

G.1.2	Task Organization Duration (median in hours) [time task organization changed minus time task organization established]							
	CP:	DMAIN	13.5 {2|0}[1]	27.4 {1|0}	22.4 {2|0}[2]	-	-	14.5 {5|0}

FOOTNOTES:

1 Non-zero values: 12.5, 14.5
2 Non-zero values: 4.8, 24.0

CATEGORY G: GENERAL MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
G.1.3	Schedule Duration (median in hours) [time schedule changed minus time schedule established]						
	CP: DMAIN	14.2 {2|0}[1]	8.0 {4|0}	16.0 {2|0}[2]	10.5 {2|0}[3]	12.0 {1|0}	10.0 {12|0}

FOOTNOTES:

1 Non-zero values: 14.0, 14.5
2 Non-zero values: 8.0, 24.0
3 Non-zero values: 10.0, 11.0

G.1.4	Boundary Duration (median in hours) [time boundaries changed minus time boundaries established]						
	CP: DMAIN	-	-	-	79.6 {1|0}	-	79.6 {1|0}

G.2.0	Plan Stability (%) [total plan duration/ total intended plan life]						
	CP: DMAIN	80 [54.5/68.5]	18 [29.1/161.2]	6 [3.0/32.0]	-	-	39 [112.9/288]

CATEGORY G: GENERAL MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
G.2.1	Mission Assignment Stability (%) [total mission assignment duration/total intended plan life]							
		CP: DMAIN	60 [9.0/15.0]	20 [31.9/161.2]	69 [22.0/32.0]	57 [15.0/26.3]	-	57 [15.0/26.3]
G.2.2	Task Organization Stability (%) [total task organization duration/total intended plan life]							
		CP: DMAIN	83 [12.5/15.0]	17 [27.4/161.2]	90 [28.8/32.0]	-	-	86 [27.4/32.0]
G.2.3	Schedule Stability (%) [total schedule duration/ total intended plan life]							
		CP: DMAIN	93 [14.0/15.0]	15 [24.0/161.2]	100 [32.0/32.0]	80 [21.0/263.0]	-	23 [22.5/96.6]
G.2.4	Boundary Stability (%) [total boundary duration/ total intended plan life]							
		CP: DMAIN	-	-	-	34 {1|0}	-	34 {1|0}

CATEGORY G: GENERAL MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
G.3.0	Planning Effectiveness (%) [# of plan elements surviving/total # of plan elements]							
	CP:	DMAIN	58 [7/12]	65 [13/20]	25 [1/4]	58 [7/12]	50 [2/4]	58 [30/52]
G.4.0	Planning Success (%) [# of dominant and adaptive plans/ total # of plans]							
	CP:	DMAIN	0 [0/3]	0 [0/5]	0 [0/1]	0 [0/3]	0 [0/1]	0 [0/13]
G.5.0	Planning Initiative (%) [# of proactive and contingency directives/ total # of directives]							
	CP:	DMAIN	100 [2/2]	88 [7/8]	100 [4/4]	33 [1/3]	-	83 [14/17]
		DTAC	-	100 [5/5]	100 [3/3]	0 [0/1]	0 [0/2]	73 [8/11]
		DREAR	-	-	100 [1/1]	-	-	100 [1/1]
		3d Bde	100 [1/1]	100 [1/1]	100 [1/1]	-	-	100 [3/3]
		Division	100 [3/3]	93 [13/14]	100 [9/9]	25 [1/4]	0 [0/2]	81 [26/32]

CATEGORY G: GENERAL MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
G.6.0	C2 Planning Cycle Time (median in hours) [time directive issued minus time stimulus perceived]						
	CP: DMAIN	-	10.8 {2|0}[1]	15.3 {1|0}	-	-	14.8 {3|0}
G.6.1	Low Planning Stress Cycle Time (median in hours) [planning cycle time]	-	-	-	-	-	-
G.6.2	Moderate Planning Stress Cycle Time (median in hours) [planning cycle time]	-	-	-	-	-	-
G.6.3	High Planning Stress Cycle Time (median in hours) [planning cycle time]						
	CP: DMAIN	-	10.8 {2|0}[1]	15.3 {1|0}	-	-	14.8 {3|0}

FOOTNOTE:

[1] Non-zero values: 6.9, 14.8

FOOTNOTE:

[1] Non-zero values: 6.9, 14.8

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.1.1	Friendly Status Report (FSR) Received [number of reports received]							
	CP:	DTAC	2	1	1	1	-	4
		3d Bde	-	4	2	1	-	7
		Division	2	5	3	1	-	11
I.1.11	FSR Punctuality (%) [# of FSRs received early or on time/ total # of FSRs received]		-	-	-	-	-	-
I.1.12	Timing of Punctual Reports (median in hours) [time due minus time received]		-	-	-	-	-	-
I.1.13	FSR Lateness (%) [# of FSRs received late/total # of FSRs received		-	-	-	-	-	-
I.1.14	Timing of Late Reports (median in hours) [time received minus time due]		-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.1.15	FSR Transmission Time (median in hours) [time received minus time sent]						
	CP: DTAC	0.1 {2|1}	__{1|1}	__{1|1}	-	-	0.1 {4|3}
I.1.2	Enemy Intelligence Summary (INTSUM) Received [number of reports in a selected period of time]						
	CP: 3d Bde	-	1	-	-	-	1
I.1.21	INTSUM Punctuality (%) [# of INTSUMs received early or on time/total # of INTSUMs received]	-	-	-	-	-	-
I.1.22	Timing of Punctual Reports (median in hours) [time due minus time received]	-	-	-	-	-	-
I.1.23	INTSUM Lateness (%) [# of INTSUMs received late/total # of INTSUMs received	-	-	-	-	-	-
I.1.24	Timing of Late Reports (median in hours) [time received minus time due]	-	-	-	-	-	-
I.1.25	INTSUM Transmission Time (median in hours) [time received minus time sent]	-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.2.1	FSR Completeness (%) [# of complete FSRs/ total # of FSRs received]							
	CP:	DTAC	0 [0/2]	0 [0/1]	0 [0/1]	-	-	0 [0/4]
		3d Bde	-	100 [4/4]	50 [1/2]	100 [1/1]	-	86 [6/7]
		Division	0 [0/2]	80 [4/5]	33 [1/3]	100 [1/1]	-	55 [6/11]
I.2.11	FSR Unit Completeness (%) [# of FSRs identifying units/total # of FSRs received]							
	CP:	DTAC	100 [2/2]	100 [1/1]	100 [1/1]	-	-	100 [4/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	100 [2/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	100 [11/11]
I.2.12	FSR Location Completeness (%) [# of FSRs identifying locations/total # of FSRs received]							
	CP:	DTAC	100 [2/2]	100 [1/1]	100 [1/1]	-	-	100 [4/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	100 [2/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	100 [11/11]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.2.13	FSR Capability Completeness (%) [# of FSRs identifying locations/total # of FSRs received]							
	CP:	DTAC	100 [2/2]	100 [1/1]	0 [0/1]	-	-	75 [3/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	100 [2/2]	100 [5/5]	67 [2/3]	100 [1/1]	-	91 [10/11]
I.2.14	FSR Activity Completeness (%) [# of FSRs identifying activity/total # of FSRs received]							
	CP:	DTAC	0 [0/2]	0 [0/1]	100 [1/1]	-	-	25 [1/4]
		3d Bde	-	100 [4/4]	50 [1/2]	100 [1/1]	-	86 [6/7]
		Division	0 [0/2]	80 [4/5]	67 [2/3]	100 [1/1]	-	64 [7/11]
I.2.2	INTSUM Completeness (%) [# of complete INTSUMs/ total # of INTSUMs received]							
	CP:	3d Bde	-	100 [1/1]	-	-	-	100 [1/1]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.2.21	INTSUM Unit Completeness (%) [# of INTSUMs identifying units/total # of INTSUMs received]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.2.22	INTSUM Location Completeness (%) [# of INTSUMs identifying location/total # of INTSUMs received]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.2.23	INTSUM Capability Completeness (%) [# of INTSUMs identifying capability/total # of INTSUMs received]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.2.24	INTSUM Activity Completeness (%) [# of INTSUMs identifying activity/total # of INTSUMs received]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.3.1	FSR Non-Location Accuracy (%) [# of elements correctly reported/total # of elements]							
	CP:	DTAC	100 [4/4]	100 [2/2]	100 [2/2]	-	-	100 [8/8]
		3d Bde	-	100 [12/12]	100 [5/5]	100 [3/3]	-	100 [20/20]
		Division	100 [4/4]	100 [14/14]	100 [7/7]	100 [3/3]	-	100 [28/28]
I.3.11	FSR Identification Accuracy (%) [# of units correctly identified/ total # of units]							
	CP:	DTAC	100 [2/2]	100 [1/1]	100 [1/1]	-	-	100 [4/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	100 [2/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	100 [11/11]
I.3.12	FSR Capability Accuracy (%) [# of units whose capabilities are correctly reported/total # of units]							
	CP:	DTac	100 [2/2]	100 [1/1]	100 [1/1]	-	-	75 [3/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	100 [2/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	91 [10/11]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.3.13	FSR Activity Accuracy (%) [# of units whose activities are correctly reported/total # of units]						
	CP: 3d Bde	-	100 [4/4]	100 [1/1]	100 [1/1]	-	100 [6/6]
I.3.14	FSR Location Accuracy (median error in km) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
I.3.2	INTSUM Non-Location Accuracy (%) [# of elements correctly reported/total # of elements]						
	CP: 3d Bde	-	100 [3/3]	-	-	-	100 [3/3]
I.3.21	INTSUM Identification Accuracy (%) [# of units correctly identified/total # of units]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.3.22	INTSUM Capability Accuracy (%) [# of units whose capabilities are correctly reported/total # of units]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.3.23	INTSUM Activity Accuracy (%) [# of units whose activities are correctly reported/total # of units]						
	CP: 3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.3.24	INTSUM Location Accuracy (*median error in km*) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
I.4.1	FSR Information Currency (median in hours) [time when the report was sent minus time of the oldest report element]	-	-	-	-	-	-
I.4.2	INTSUM Information Currency (median in hours) [time of the report when sent minus time of the oldest report element]	-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.5.1	FSR Requests for Information (%) [# of elements queried/ # of elements missing or unclear]							
	CP:	DTAC	100 [4/4]	0 [0/1]	0 [0/1]	-	-	67 [4/6]
		3d Bde	-	-	-	0 [0/1]	-	0 [0/1]
		Division	100 [4/4]	0 [0/1]	0 [0/1]	0 [0/1]	-	57 [4/7]
I.5.11	FSR Requests for Identification (%) [# of identifications queried/ total # of missing or unclear identifications]		-	-	-	-	-	-
I.5.12	FSR Requests for Capabilities (%) [# of capabilities queried/ total # of missing or unclear capabilities]							
	CP:	DTAC	-	-	0 [0/1]	-	-	0 [0/1]
		3d Bde	-	-	-	0 [0/1]	-	0 [0/1]
		Division	-	-	0 [0/1]	0 [0/1]	-	0 [0/2]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.5.13	FSR Requests for Combat Activity (%) [# of activities queried/ total # of missing or unclear activities]							
	CP:	DTAC	0 [0/2]	0 [0/1]	-	-	-	0 [0/3]
I.5.14	FSR Requests for Location (%) [# of locations queried/ total # of missing or unclear locations]							
	CP:	DTAC	100 [2/2]	-	-	-	-	100 [2/2]
I.5.15	Friendly Spot Reports Queried (%) [# of friendly spot reports queried/total # of friendly spot reports with missing or unclear information]							
	CP:	DMAIN	0 [0/1]	-	-	-	-	0 [0/1]
		DTAC	-	71 [5/7]	60 [3/5]	67 [6/9]	-	67 [14/21]
		DREAR	0 [0/1]	0 [0/2]	-	0 [0/1]	-	0 [0/4]
		3d Bde	0 [0/5]	5 [1/22]	0 [0/10]	33 [1/3]	0 [0/1]	5 [2/41]
		Division	0 [0/7]	19 [6/31]	20 [3/15]	54 [7/13]	0 [0/1]	24 [16/67]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.5.2	INTSUM Requests for Information (%) [# of elements queried/# of elements missing or unclear]	-	-	-	-	-	-
I.5.21	INTSUM Requests for Information (%) [# of identifications queried/ total # of missing or unclear information]	-	-	-	-	-	-
I.5.22	INTSUM Requests for Capabilities (%) [# of capabilities queried/ total # of missing or unclear capabilities	-	-	-	-	-	-
I.5.23	INTSUM Requests for Combat Activity (%) [# of activities queried/ total # of missing or unclear activities]	-	-	-	-	-	-
I.5.24	INTSUM Requests for Location (%) [# of locations queried/ total # of missing or unclear locations]	-	-	-	-	-	-
I.5.25	Enemy Spot Reports Queried (%) [# enemy spot reports queried/total # of reports with missing or unclear information]						
	CP: DTAC	100 [1/1]	-	100 [1/1]	100 [5/5]	-	100 [7/7]
	DREAR	-	0 [0/1]	0 [0/1]	-	-	0 [0/2]
	3d Bde	-	20 [2/10]	0 [0/11]	0 [0/2]	0 [0/3]	8 [2/25]
	Division	100 [1/1]	18 [2/11]	8 [1/13]	71 [5/7]	0 [0/3]	26 [9/34]

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.6.1	FSR Satisfaction (%) [# of FSRs requiring no follow-up/total # of FSRs received]							
	CP:	DTAC	0 [0/2]	100 [1/1]	100 [1/1]	-	-	50 [2/4]
		3d Bde	-	100 [4/4]	100 [2/2]	100 [1/1]	-	100 [7/7]
		Division	0 [0/2]	100 [5/5]	100 [3/3]	100 [1/1]	-	82 [9/11]
I.6.2	INTSUM Satisfaction (%) [# of INTSUMs requiring no follow-up/total # of INTSUMs received]							
	CP:	3d Bde	-	100 [1/1]	-	-	-	100 [1/1]
I.7.11	Friendly Spot Report Currency (median in hours) [time stimulus perceived minus time report sent]		-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
I.7.12	Friendly Spot Report Transmission Time (median in hours) [time report received minus time report sent]							
	CP:	DTAC	___ {8|8}	___ {1|1}	___ {1|1}	0.1 {5|3}	-	0.1 {15|13}
		DREAR	-	-	-	0.8 {1|0}	-	0.8 {1|0}
		3d Bde	-	___ {2|2}	-	-	-	___ {2|2}
		Division	___ {8|8}	___ {3|3}	___ {1|1}	0.1 {6|3}	-	0.1 {18|15}
I.7.13	Friendly Spot Report Perception Time (median in hours) [time received minus time perceived]		-	-	-	-	-	-
I.7.14	Friendly Spot Report Speed (median in hours) [time received minus time stimulus perceived]		-	-	-	-	-	-
I.7.21	Enemy Spot Report Currency (median in hours) [time stimulus perceived minus time report sent]		-	-	-	-	-	-
I.7.22	Enemy Spot Report Transmission Time (median in hours) [time report received minus time report sent]		-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.7.23	Enemy Spot Report Perception Time (median in hours) [time received minus time perceived]	-	-	-	-	-	-
I.7.24	Enemy Spot Report Speed (median in hours) [time received minus time stimulus perceived]	-	-	-	-	-	-
I.8.1	Friendly Spot Report Non-Location Accuracy (%) [# of elements currently reported/total # of elements]	-	-	-	-	-	-
I.8.11	Friendly Spot Report Identification Accuracy (%) [# of units correctly identified/total # of units]	-	-	-	-	-	-
I.8.12	Friendly Spot Report Capability Accuracy (%) [# of units whose capabilities are correctly identified/ total # of units]	-	-	-	-	-	-
I.8.13	Friendly Spot Report Combat Activities Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-
I.8.14	Friendly Spot Report Location Accuracy (median error in km) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
I.8.2	Enemy Spot Report Non-Location Accuracy (%) [# of elements currently reported/total # of elements]	-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.8.21	Enemy Spot Report Capability Accuracy (%) [# of units whose capabilities are correctly identified/ total # of units]	-	-	-	-	-	-
I.8.22	Enemy Spot Report Combat Activities Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-
I.8.23	Enemy Spot Report Combat Activities Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-
I.8.24	Enemy Spot Report Location Accuracy (median error in km) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
I.9.11	Weather and Terrain Report Currency (median in hours) [time stimulus received minus time report sent]	-	-	-	-	-	-
I.9.12	Weather and Terrain Report Transmission Time (median in hours) [time stimulus received minus time report sent]	-	-	-	-	-	-
I.9.13	Weather and Terrain Report Punctuality (median in hours) [time perceived minus time received]	-	-	-	-	-	-

CATEGORY I: INCOMING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
I.9.14	Weather and Terrain Report Speed (median in hours) [time received minus time stimulus perceived]	-	-	-	-	-	-
I.9.2	Weather and Terrain Report Accuracy (%) [# of elements correctly reported/total # of elements]	-	-	-	-	-	-
I.10.0	Report Impact on Plan (%) [# of plan changes not due to report problems/total # of plan changes]	-	-	-	-	-	-

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.1.1	Completeness of the Assessments of the Friendly Situation (%) [# of complete FSAs/ # of formal FSAs]							
	CP:	DMAIN	-	0 [0/4]	-	0 [0/1]	-	0 [0/5]
		DTAC	17 [1/6]	0 [0/19]	11 [1/9]	0 [0/10]	0 [0/3]	4.3 [2/47]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	0 [0/1]	0 [0/12]	0 [0/8]	0 [0/5]	0 [0/1]	0 [0/27]
		Division	14 [1/7]	0 [0/36]	6 [1/17]	0 [0/16]	0 [0/4]	3 [2/80]
T.1.11	Friendly Mission Completeness (%) [# of formal FSAs discussing mission/# of formal FSAs]							
	CP:	DMAIN	-	0 [0/4]	-	100 [1/1]	-	20 [1/5]
		DTAC	83 [5/6]	79 [15/19]	67 [6/9]	50 [5/10]	33 [1/3]	68 [32/47]
		DREAR	-	100 [1/1]	-	-	-	100 [1/1]
		3d Bde	100 [1/1]	33 [4/12]	25 [2/8]	60 [3/5]	100 [1/1]	41 [11/27]
		Division	86 [6/7]	56 [20/36]	47 [8/17]	56 [9/16]	50 [2/4]	56 [45/80]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY				
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.1.12	Friendly Task Organization Completeness (%) [# of formal FSAs discussing task organization/ # of formal FSAs]							
	CP:	DMAIN	-	0 [0/4]	-	0 [0/1]	-	0 [0/5]
		DTAC	100 [6/6]	32 [6/19]	67 [6/9]	20 [2/10]	33 [1/3]	45 [21/47]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	100 [1/1]	17 [2/12]	38 [3/8]	60 [3/5]	100 [1/1]	37 [10/27]
		Division	100 [7/7]	22 [8/36]	53 [9/17]	31 [5/16]	50 [2/4]	39 [31/80]
T.1.13	Friendly Disposition Completeness (%) [# of formal FSAs discussing disposition/# of formal FSAs]							
	CP:	DMAIN	-	25 [1/4]	-	0 [0/1]	-	20 [1/5]
		DTAC	100 [6/6]	63 [12/19]	89 [8/9]	50 [5/10]	67 [2/3]	70 [33/47]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	100 [1/1]	58 [7/12]	50 [4/8]	60 [3/5]	100 [1/1]	59 [16/27]
		Division	100 [7/7]	56 [20/36]	71 [12/17]	50 [8/16]	75 [3/4]	63 [50/80]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.1.14	Friendly Activities Completeness (%) [# of formal FSAs discussing activities/# of formal FSAs]							
	CP:	DMAIN	-	100 [4/4]	-	0 [0/1]	-	80 [4/5]
		DTAC	67 [4/6]	58 [11/19]	89 [8/9]	90 [9/10]	100 [3/3]	75 [35/47]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	100 [1/1]	92 [11/12]	25 [2/8]	40 [2/5]	100 [1/1]	63 [17/27]
		Division	71 [5/7]	72 [26/36]	59 [10/17]	69 [11/16]	100 [4/4]	70 [56/80]
T.1.15	Friendly Status Completeness (%) [# of formal FSAs discussing status/# of formal FSAs]							
	CP:	DMAIN	-	0 [0/4]	-	100 [1/1]	-	20 [1/5]
		DTAC	100 [6/6]	63 [12/19]	67 [6/9]	60 [6/10]	67 [2/3]	68 [32/47]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	100 [1/1]	33 [4/12]	38 [3/8]	20 [1/5]	100 [1/1]	41 [10/27]
		Division	100 [7/7]	44 [16/36]	53 [9/17]	50 [8/16]	75 [3/4]	54 [43/80]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
T.1.16	Friendly Combat Service Support Completeness (%) [# of formal FSAs discussing CSS/# of formal FSAs]						
	CP: DMAIN	-	0 [0/4]	-	0 [0/1]	-	0 [0/5]
	DTAC	33 [2/6]	5 [1/19]	11 [1/9]	10 [1/10]	0 [0/3]	11 [5/47]
	DREAR	-	0 [0/1]	-	-	-	0 [0/1]
	3d Bde	100 [1/1]	17 [2/12]	50 [4/8]	20 [1/5]	0 [0/1]	30 [8/27]
	Division	43 [3/7]	8 [3/36]	29 [5/17]	13 [2/16]	0 [0/4]	16 [13/80]
T.1.2	Completeness of the Assessment of the Enemy Situation (%) [# of complete formal ESAs/ # of formal ESAs conducted]						
	CP: DMAIN	-	0 [0/3]	-	0 [0/1]	100 [1/1]	20 [1/5]
	DTAC	100 [2/2]	0 [0/6]	10 [1/10]	8 [1/12]	0 [0/4]	12 [4/34]
	DREAR	-	0 [0/2]	-	-	-	0 [0/2]
	3d Bde	33 [1/3]	50 [1/2]	100 [1/1]	-	-	50 [3/6]
	Division	60 [3/5]	8 [1/13]	18 [2/11]	8 [1/13]	25 [1/5]	17 [8/47]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY					
NUMBER		TITLE	1	2	3	4	5	AGGREGATE
T.1.21		Enemy Composition Completeness (%) [# of formal ESAs discussing composition/ # of formal ESAs]						
	CP:	DMAIN	-	33 [1/3]	-	0 [0/1]	100 [1/1]	40 [2/5]
		DTAC	100 [2/2]	67 [4/6]	50 [5/10]	25 [3/12]	25 [1/4]	44 [15/34]
		DREAR	-	0 [0/2]	-	-	-	0 [0/2]
		3d Bde	67 [2/3]	100 [2/2]	100 [1/1]	-	-	83 [5/6]
		Division	80 [4/5]	54 [6/13]	55 [6/11]	23 [3/13]	40 [2/5]	47 [22/47]
T.1.22		Enemy Disposition Completeness (%) [# of formal ESAs discussing disposition/ # of formal ESAs]						
	CP:	DMAIN	-	33 [1/3]	-	0 [0/1]	100 [1/1]	40 [2/5]
		DTAC	100 [2/2]	50 [3/6]	60 [6/10]	42 [5/12]	50 [2/4]	53 [18/34]
		DREAR	-	50 [1/2]	-	-	-	50 [1/2]
		3d Bde	100 [3/3]	50 [1/2]	100 [1/1]	-	-	83 [5/6]
		Division	100 [5/5]	46 [6/13]	64 [7/11]	39 [5/13]	60 [3/5]	55 [26/47]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
T.1.23	Enemy Combat Power Completeness (%) [# of formal ESAs discussing combat power/# of formal ESAs]						
CP:	DMAIN	-	67 [2/3]	-	0 [0/1]	100 [1/1]	60 [3/5]
	DTAC	100 [2/2]	33 [2/6]	50 [5/10]	67 [8/12]	25 [1/4]	53 [18/34]
	DREAR	-	0 [0/2]	-	-	-	0 [0/2]
	3d Bde	100 [3/3]	100 [2/2]	100 [1/1]	-	-	100 [6/6]
	Division	100 [5/5]	46 [6/13]	55 [6/11]	62 [8/13]	40 [2/5]	59 [27/47]
T.1.24	Enemy Activities Completeness (%) [# of formal ESAs discussing activities/# of formal ESAs]						
CP:	DMAIN	-	33 [1/3]	-	100 [1/1]	100 [1/1]	60 [3/5]
	DTAC	100 [2/2]	67 [4/6]	60 [6/10]	100 [12/12]	50 [2/4]	77 [26/34]
	DREAR	-	0 [0/2]	-	-	-	0 [0/2]
	3d Bde	33 [1/3]	100 [2/2]	100 [1/1]	-	-	67 [4/6]
	Division	80 [4/5]	54 [7/13]	64 [7/11]	100 [13/13]	60 [3/5]	70 [33/47]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY				
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.1.25	Enemy Course of Action Completeness (%) [# of formal ESAs discussing COAs/# of formal ESAs]							
	CP:	DMAIN	-	33 [1/3]	-	100 [1/1]	100 [1/1]	60 [3/5]
		DTAC	100 [2/2]	17 [1/6]	70 [7/10]	58 [7/12]	75 [3/4]	59 [20/34]
		DREAR	-	50 [1/2]	-	-	-	50 [1/2]
		3d Bde	100 [3/3]	50 [1/2]	100 [1/1]	-	-	83 [5/6]
		Division	100 [5/5]	31 [4/13]	73 [8/11]	62 [8/13]	80 [4/5]	62 [29/47]
T.2.1	Accuracy of Assessments of the Friendly Situtation (%) [# of correct and not incorrect assessments/total # of evaluated assessments]							
	CP:	DMAIN	-	95 [20/21]	100 [8/8]	100 [4/4]	-	97 [32/33]
		DTAC	75 [3/4]	100 [14/14]	86 [6/7]	80 [4/5]	100 [4/4]	91 [31/34]
		DREAR	100 [1/1]	100 [1/1]	-	-	-	100 [2/2]
		3d Bde	-	86 [6/7]	100 [5/5]	-	-	92 [11/12]
		Division	80 [4/5]	95 [41/43]	95 [19/20]	89 [8/9]	100 [4/4]	94 [76/81]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
T.2.11	Accuracy of Assessments about the Friendly Situtation That Are Correct (%) [# of correct assessments/total # of evaluated assessments]						
CP:	DMAIN	-	95 [20/21]	100 [8/8]	100 [4/4]	-	97 [32/33]
	DTAC	75 [3/4]	100 [13/14]	86 [6/7]	80 [4/5]	100 [4/4]	88 [30/34]
	DREAR	100 [1/1]	100 [1/1]	-	-	-	100 [2/2]
	3d Bde	-	71 [5/7]	100 [5/5]	-	-	83 [10/12]
	Division	80 [4/5]	91 [39/43]	95 [19/20]	89 [8/9]	100 [4/4]	91 [74/81]
T.2.12	Accuracy of Assessments about the Friendly Situtation That Are Not Incorrect (%) [# of not incorrect assessments/ total # of evaluated assessments]						
CP:	DMAIN	-	0 [0/21]	0 [0/8]	0 [0/4]	-	0 [0/33]
	DTAC	0 [0/3]	7 [1/14] [1]	0 [0/7]	0 [0/5]	0 [0/4]	3 [1/34]
	DREAR	0 [0/1]	0 [0/1]	-	-	-	0 [0/2]
	3d Bde	-	14 [1/7] [2]	0 [0/5]	-	-	8 [1/12]
	Division	0 [0/4]	5 [2/43]	0 [0/20]	0 [0/9]	0 [0/4]	3 [2/81]

FOOTNOTES:

1 Class V (artillery, ammunition, FASCAM) did become problem but not as early as stated in the assessment
2 1st Bde did not cross bridge until 1239 vs. 1232 as predicted due to mine field

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.2.13	Accuracy of Assessments about the Friendly Situtation That Incorrect (%) [# of incorrect assessments/ total # of evaluated assessments]							
	CP:	DMAIN	-	5 [1/21]	0 [0/8]	0 [0/4]	-	3 [1/33]
		DTAC	25 [1/4]	0 [0/14]	14 [1/7]	20 [1/5]	0 [0/4]	9 [3/34]
		DREAR	0 [0/1]	0 [0/1]	-	-	-	0 [0/2]
		3d Bde	-	14 [1/7]	0 [0/5]	-	-	8 [1/12]
		Division	20 [1/5]	5 [2/43]	5 [1/20]	11 [1/9]	0 [0/4]	6 [5/81]
T.2.2	Accuracy of Assessments of the Enemy Situation (%) [# of correct and not incorrect assessments/total # of evaluated assessments]							
	CP:	DMAIN	-	86 [6/7]	88 [7/8]	89 [8/9]	60 [3/5]	83 [24/29]
		DTAC	0 [0/1]	100 [4/4]	75 [3/4]	83 [5/6]	67 [2/3]	78 [14/18]
		3d Bde	-	100 [3/3]	100 [2/2]	100 [1/1]	-	100 [6/6]
		Division	0 [0/1]	93 [13/14]	86 [12/14]	88 [14/16]	63 [5/8]	83 [44/53]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES			DAY				
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
T.2.21	Accuracy of Assessments about the Enemy Situation That Are Correct (%) [# of correct assessments/total # of evaluated assessments]							
	CP:	DMAIN	-	86 [6/7]	88 [7/8]	89 [8/9]	60 [3/5]	83 [24/29]
		DTAC	0 [0/1]	100 [4/4]	75 [3/4]	83 [5/6]	67 [2/3]	78 [14/18]
		3d Bde	-	100 [3/3]	100 [2/2]	100 [1/1]	-	100 [6/6]
		Division	0 [0/1]	93 [13/14]	86 [12/14]	88 [14/16]	63 [5/8]	83 [44/53]
T.2.22	Accuracy of Assessments about the Enemy Situation That Are Not Incorrect (%) [# of not incorrect assessments/ total # of evaluated assessments]							
	CP:	DMAIN	-	0 [0/7]	0 [0/8]	0 [0/9]	0 [0/5]	0 [0/29]
		DTAC	0 [0/1]	0 [0/4]	0 [0/4]	0 [0/6]	0 [0/3]	0 [0/18]
		3d Bde	-	0 [0/3]	0 [0/2]	0 [0/1]	-	0 [0/6]
		Division	0 [0/1]	0 [0/14]	0 [0/14]	0 [0/16]	0 [0/8]	0 [0/53]

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
T.2.23	Accuracy of Assessments About the Enemy Situation That Are Incorrect (%) [# of incorrect assessments/total # of evaluated assessments]						
CP:	DMAIN	-	14 [1/7]	13 [1/8]	11 [1/9]	40 [2/5]	17 [5/29]
	DTAC	100 [1/1]	0 [0/4]	25 [1/4]	17 [1/6]	33 [1/3]	22 [4/18]
	3d Bde	-	0 [0/3]	0 [0/2]	0 [0/1]	-	0 [0/6]
	Division	100 [1/1]	7 [1/14]	14 [2/14]	13 [2/16]	38 [3/8]	17 [9/53]
T.3.0	Time Span of Assessments (median in hours) [end of period assessments covers minus the time the assessment is expressed]						
CP:	DMAIN	-	4.3	4.7	12.0	-	4.5
	DTAC	12.0	4.0	6.0	12.0	2.5	9.0
	DREAR	2.0 [1]	26.5 [2]	-	-	-	18.0
	3d Bde	14.0	8.0 [3]	4.0 [1]	12.0 [1]	-	12.0
	Division	12.0	3.2	6.0	12.0	2.5	12.0

FOOTNOTES:

[1] One observation
[2] Values: 18.0, 35.0
[3] Values: 4.0, 12.0

CATEGORY T: TRACKING THE SITUATION MEASURES

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
T.4.0	Assessments Impact on Plans (%) [# of changes not due to the quality of SAs/total # of plan changes]	80 [4/5]	57 [4/7]	0 [0/1]	33 [1/3]	-	56 [9/16]

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
IC.1.0	Intra-Command Post (CP) Agreement on the Battlefield Picture (%) [# of SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-
IC.1.1	Intra-CP Agreement on Friendly Battlefield Picture (%) [# of friendly SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-
IC.1.2	Intra-CP Agreement on Enemy Battlefield Picture (%) [# of enemy SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-
IC.2.0	Inter-CP Agreement on Battlefield Picture (%) [# of SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-
IC.2.1	Inter-CP Agreement on Friendly Battlefield Picture (%) [# of friendly SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-
IC.2.2	Inter-CP Agreement on Enemy Battlefield Picture (%) [# of enemy SA information pairs in agreement/total # of possible pairs]	-	-	-	-	-	-

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.3.0	Intra-CP Coordination Request Time (median in hours) [time action initiated minus time need is perceived]							
	CP:	DMAIN	___ {1|1}	___ {3|3}	.4 {4|2} [1]	___ {1|1}	-	.4 {9|7} [1]
		DTAC	.2 {3|1} [2]	0.1 {8|2}	0.1 {2|1}	0.1 {5|2}	0.1 {2|1}	0.1 {20|7}
		DREAR	-	-	-	0.4 {1|0}	-	0.4 {1|0}
		3d Bde	___ {2|2}	___ {10|10}	___ {8|8}	-	-	___ {20|20}
		Division	.2 {6|4} [2]	0.1 {21|15}	0.1 {14|11}	0.2 {7|3}	0.1 {2|1}	0.1 {50|34}

FOOTNOTES:

[1] Non-zero values: 0.1, 0.6
[2] Non-zero values: 0.1, 0.2

IC.3.1	Intra-CP Coordination Cycle Time (median in hours) [time of resolution minus time need is perceived]							
	CP:	DMAIN	-	1.3 {3|2}	1.7 {3|0}	3.4 {1|0}	-	1.7 {7|2}
		DTAC	0.8 {3|0}	1.7 {8|1}	0.2 {2|0} [1]	0.2 {4|1}	.1 {2|1}	0.8 {19|3}
		3d Bde	___ {2|2}	0.1 {6|5}	0.4 {2|0} [2]	-	-	0.1 {10|7}
		Division	0.8 {5|2}	1.3 {17|8}	0.3 {7|0}	0.4 {5|1}	.1 {2|1}	0.7 {36|12}

FOOTNOTES:

[1] Non-zero values: 0.1, 0.3
[2] Non-zero values: 0.1, 0.7

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.3.2	Intra-CP Coordination Frequency [# of circumstances explicitly recognized]							
	CP:	DMAIN	2	4	4	2	-	12
		DTAC	3	9	2	6	2	22
		DREAR	-	-	-	1	-	1
		3d Bde	2	13	28	3	-	46
		Division	7	26	34	12	2	81
IC.3.3	Intra-CP Coordination Initiation (%) [# of coordinations initiated/ # of circumstances explicitly recognized]							
	CP:	DMAIN	100 [2/2]	100 [4/4]	75 [3/4]	100 [2/2]	-	92 [11/12]
		DTAC	100 [3/3]	100 [9/9]	100 [2/2]	100 [6/6]	100 [2/2]	100 [22/22]
		DREAR	-	-	-	100 [1/1]	-	100 [1/1]
		3d Bde	100 [2/2]	85 [11/13]	96 [27/28]	100 [3/3]	-	94 [43/46]
		Division	100 [7/7]	92 [24/26]	94 [32/34]	100 [12/12]	100 [2/2]	95 [77/81]

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.3.4	Intra-CP Coordination Completion (%) [# of coordinations completed/# of coordinations initiated]							
	CP:	DMAIN	0 [0/2]	100 [4/4]	67 [2/3]	100 [2/2]	-	73 [8/11]
		DTAC	100 [3/3]	100 [9/9]	100 [2/2]	100 [6/6]	100 [2/2]	100 [22/22]
		DREAR	-	-	-	0 [0/1]	-	0 [0/1]
		3d Bde	100 [2/2]	60 [6/10]	25 [7/28]	0 [0/3]	-	35 [15/43]
		Division	71 [5/7]	83 [19/23]	33 [11/33]	67 [8/12]	100 [2/2]	58 [45/77]
IC.3.x	Intra-CP Coordination Success (%) [# of coordinations completed/# of required coordinations recognized]							
	CP:	DMAIN	0 [0/2]	100 [4/4]	67 [2/3]	100 [2/2]	-	67 [8/12]
		DTAC	100 [3/3]	100 [9/9]	100 [2/2]	100 [6/6]	100 [2/2]	100 [22/22]
		DREAR	-	-	-	0 [0/1]	-	0 [0/1]
		3d Bde	100 [2/2]	60 [6/10]	25 [7/28]	100 [0/3]	-	33 [15/46]
		Division	71 [5/7]	83 [19/23]	33 [11/33]	67 [8/12]	100 [2/2]	56 [45/81]

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.4.0	Inter-CP Coordination Request Time (median in hours) [time action is initiated minus time need is perceived]							
	CP:	DMAIN	0.4 {3|2}	4.2 {3|2}	1.4 {6|3}	0.1 {5|4}	0.9 {2|0} [1]	1.0 {19|13}
		DTAC	0.4 {3|0}	___ {3|3}	0.1 {2|1}	0.2 {3|1} [2]	0.2 {4|1}	0.2 {15|6}
		3d Bde	___ {1|1}	0.3 {15|14}	___ {10|10}	___ {1|1}	-	0.3 {27|26}
		Division	0.4 {7|3}	2.2 {21|19} [3]	1.3 {18|14}	0.1 {9|6}	0.2 {6|1}	0.4 {61|45}

FOOTNOTES:

[1] Non-zero values: 0.8, 1.0
[2] Non-zero values: 0.1, 0.3
[3] Non-zero values: 0.3, 4.2

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.4.1	Inter-CP Coordination Cycle Time (median in hours) [time of resolution minus time need is perceived]							
	CP:	DMAIN	___ {2|2}	0.3 {2|0} [1]	1.7 {5|1}	0.1 {4|1}	2.2 {2|0} [2]	1.6 {15|4}
		DTAC	0.4 {1|0}	0.1 {3|2}	0.2 {2|0} [3]	0.5 {3|1} [4]	0.8 {4|1}	0.4 {13|4}
		3d Bde	-	0.2 {13|10}	___ {3|3}	0.7 {1|0}	-	0.2 {17|13}
		Division	0.4 {3|2}	0.1 {18|12}	1.6 {10|4}	0.5 {8|2}	0.9 {6|1}	0.5 {45|21}

FOOTNOTES:

[1] Non-zero values: 0.2, 0.4
[2] Non-zero values: 1.0, 3.4
[3] Non-zero values: 0.1, 0.2
[4] Non-zero values: 0.4, 0.6

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.4.2	Inter-CP Coordination Frequency [# of explicitly recognized circumstances]							
	CP:	DMAIN	3	8	6	6	3	26
		DTAC	3	4	1	3	4	15
		3d Bde	5	22	29	10	-	66
		Division	11	34	36	19	7	107
IC.4.3	Inter-CP Coordination Initiation (%) [# of coordination attempts/ # of circumstances explicitly recognized]							
	CP:	DMAIN	100 [3/3]	100 [8/8]	100 [6/6]	100 [6/6]	100 [3/3]	100 [26/26]
		DTAC	100 [3/3]	100 [4/4]	100 [1/1]	100 [3/3]	100 [4/4]	100 [15/15]
		3d Bde	100 [5/5]	95 [21/22]	97 [28/29]	100 [10/10]	-	83 [64/66]
		Division	100 [11/11]	90 [28/31]	93 [40/43]	100 [22/22]	100 [7/7]	98 [105/107]

CATEGORY IC: INFORMATION CONGRUENCE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
IC.4.4	*Inter-CP Coordination Completion (%)* [# of coordinations completed/ # of coordinations initiated]							
	CP:	DMAIN	100 [3/3]	75 [6/8]	100 [6/6]	100 [6/6]	100 [3/3]	92 [24/26]
		DTAC	67 [2/3]	100 [4/4]	100 [1/1]	100 [3/3]	100 [4/4]	93 [14/15]
		3d Bde	60 [3/5]	95 [21/22]	72 [21/29]	100 [10/10]	-	92 [61/66]
		Division	73 [8/11]	91 [31/34]	78 [28/36]	100 [19/19]	100 [7/7]	93 [99/107]
IC.4.x	Inter-CP Coordination *Success (%)* [# of coordinations completed/ # of required coordinations recognized]							
	CP:	DMAIN	100 [3/3]	75 [6/8]	100 [6/6]	100 [6/6]	100 [3/3]	92 [24/26]
		DTAC	67 [2/3]	100 [4/4]	100 [1/1]	100 [3/3]	100 [4/4]	93 [14/15]
		3d Bde	60 [3/5]	95 [21/22]	72 [21/29]	100 [10/10]	-	92 [61/66]
		Division	73 [8/11]	91 [31/34]	78 [28/36]	100 [19/19]	100 [7/7]	93 [99/107]
IC.5.0	Inter-CP Consistency of Directives (%) [# of non-conflicting directives issued/total # of directives issued]		-	-	-	-	-	-
IC.6.0	Coordination Impact on Plans (%) [# of changes not due to coordination/total # of changes in the plan]		-	-	-	-	-	-

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.1.0	Number of Participants COAs (median) [# of staff members]							
	CP:	DMAIN	6.5 [1]	5	8	3.5 [2]	4	5
		DTAC	10	5	7	2	5	7
		DREAR	-	7	-	-	-	7
		3d Bde	2	1	-	-	-	1
		Division	5	5	7	2	5	5

FOOTNOTES:

[1] Values: 5, 8
[2] Values: 1, 6

PC.2.0	Variety of Participants COAs (median) [# of staff members]							
	CP:	DMAIN	4 [1]	4	5	3 [2]	2	4
		DTAC	7	3	3	2	3	3
		DREAR	-	3	-	-	-	3
		3d Bde	1	1	-	-	-	1
		Division	3	3	3	2	3	3

FOOTNOTES:

[1] Values: 3, 5
[2] Values: 2, 4

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.3.0	Alternative COAs (median) [# of COAs considered]							
	CP:	DMAIN	2 [1]	2	4 [2]	2	-	2
		DTAC	2 [2]	2	1	2 [2]	1	2
		DREAR	-	3 [2]	-	-	-	3 [2]
		3d Bde	3 [2]	2	-	-	-	2
		Division	2	2	1	2	1	2

FOOTNOTES:

[1] Values: 1, 3
[2] One observation

PC.4.0	Completeness of COA Analysis (%) [# of complete COAs/# of COA analysis conducted]							
	CP:	DMAIN	100 [2/2]	50 [3/6]	100 [1/1]	50 [1/2]	100 [1/1]	67 [8/12]
		DTAC	100 [1/1]	20 [1/5]	100 [3/3]	100 [1/1]	25 [1/4]	50 [7/14]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	0 [0/1]	0 [0/3]	-	-	-	0 [0/4]
		Division	75.0 [3/4]	26.7 [4/15]	100 [4/4]	67 [2/3]	40 [2/3]	48 [15/31]

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.4.1	Predictions of Enemy Reaction (%) [# of COA analysis including enemy reactions/# of COAs]							
	CP:	DMAIN	100 [2/2]	83 [5/6]	100 [1/1]	100 [2/2]	100 [1/1]	92 [11/12]
		DTAC	100 [1/1]	60 [3/5]	100 [3/3]	100 [1/1]	25 [1/4]	64 [9/14]
		DREAR	-	100 [1/1]	-	-	-	100 [1/1]
		3d Bde	0 [0/1]	33 [1/3]	-	-	-	25 [1/4]
		Division	75 [3/4]	67 [10/15]	100 [4/4]	100 [3/3]	40 [2/5]	71 [22/31]
PC.4.2	Likely Degree of Mission Accomplishment (%) [# of COA analyses including mission accomplishment/ # of COAs]							
	CP:	DMAIN	100 [2/2]	83 [5/6]	100 [1/1]	50 [1/2]	100 [1/1]	83 [10/12]
		DTAC	100 [1/1]	40 [2/5]	100 [3/3]	100 [1/1]	75 [3/4]	71 [10/14]
		DREAR	-	100 [1/1]	-	-	-	100 [1/1]
		3d Bde	100 [1/1]	67 [2/3]	-	-	-	75 [3/4]
		Division	100 [4/4]	67 [10/15]	100 [4/4]	67 [2/3]	80 [4/5]	77 [24/31]

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.4.3	Residual Capacity of Friendly Units Involved (%) [# of COA analyses including friendly capacity/ # of COAs]							
	CP:	DMAIN	100 [2/2]	67 [4/6]	100 [1/1]	100 [2/2]	100 [1/1]	83 [10/12]
		DTAC	100 [1/1]	80 [4/5]	100 [3/3]	100 [1/1]	75 [3/4]	86 [12/14]
		DREAR	-	100 [1/1]	-	-	-	100 [1/1]
		3d Bde	100 [1/1]	0 [0/3]	-	-	-	25 [1/4]
		Division	100 [4/4]	60 [9/15]	100 [4/4]	100 [3/3]	80 [4/5]	77 [24/31]
PC.4.4	Residual Capacity of Enemy Units (%) [# of COA analyses including enemy capacity/ # of COAs]							
	CP:	DMAIN	100 [2/2]	67 [4/6]	100 [1/1]	100 [2/2]	100 [1/1]	83 [10/12]
		DTAC	100 [1/1]	40 [2/5]	100 [3/3]	100 [1/1]	75 [3/4]	71 [10/14]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	0 [0/1]	33 [1/3]	-	-	-	25 [1/4]
		Division	75 [3/4]	47 [7/15]	100 [4/4]	100 [3/3]	80 [4/5]	68 [21/31]

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
PC.5.0	Accuracy of COA Analysis (%) [# of correct and not incorrect analyses/total # of evaluated analyses]						
CP:	DMAIN	100 [2/2]	100 [6/6]	0 [0/1]	-	-	89 [8/9]
	DTAC	-	75 [3/4]	100 [2/2]	-	75 [3/4]	80 [8/10]
	DREAR	-	100 [1/1]	-	-	-	100 [1/1]
	Division	100 [2/2]	91 [10/11]	67 [2/3]	-	75 [3/4]	85 [17/20]
PC.5.1	Correct COA Analysis (%) [# of correct analyses/total # of evaluated analyses]						
CP:	DMAIN	100 [2/2]	100 [6/6]	0 [0/1]	-	-	89 [8/9]
	DTAC	-	75 [3/4]	100 [2/2]	-	75 [3/4]	80 [8/10]
	DREAR	-	100 [1/1]	-	-	-	100 [1/1]
	Division	100 [2/2]	91 [10/11]	67 [2/3]	-	75 [3/4]	85 [17/20]

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.5.2	Not Incorrect COA Analysis (%) [# of not incorrect analyses/ total # of evaluated analyses]							
	CP:	DMAIN	0 [0/2]	0 [0/6]	0 [0/1]	-	-	0 [0/9]
		DTAC	-	0 [0/4]	0 [0/2]	-	0 [0/4]	0 [0/10]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		Division	0 [0/2]	0 [0/11]	0 [0/3]	-	0 [0/4]	0 [0/20]
PC.5.3	Incorrect COA Analysis (%) [# of incorrect analyses/ total # of evaluated analyses]							
	CP:	DMAIN	0 [0/2]	0 [0/6]	100 [1/1]	-	-	11 [1/9]
		DTAC	-	25 [1/4]	0 [0/2]	-	25 [1/4]	20 [2/10]
		DREAR	-	0 [0/1]	-	-	-	0 [0/1]
		Division	0 [0/2]	9 [1/11]	33 [1/3]	-	25 [1/4]	15 [3/20]

CATEGORY PC: PREDICT COURSES OF ACTION (COA)

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PC.6.0	COA Analysis Time-Span (median in hours) [the end of the period that the COA analysis covers minus the time the analysis is complete]							
	CP:	DMAIN	7.5 [1]	19.0	19.0	48.0 [2]	12.0	19.0
		DTAC	48.0	12.0	1.5	12.0	13.0	12.0
		3d Bde	6.0	4.0	-	-	-	5.0
		Division	9.0	9.0	7.8	24.0	7.7	12.0

FOOTNOTES:

[1] Values: 3.0, 12.0
[2] Values: 24.0, 72.0

PC.7.0	COA Impact on Planning (%) [# of changes not due to the quality of COA analysis/ total # of changes in the plan]	-	-	-	-	-	-

CATEGORY PD: PREPARATION OF DIRECTIVE MEASURE

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PD.1.0	Number of Participants - Directives (median) [# of staff members]							
	CP:	DMAIN	5	5	7	2	-	5
		DTAC	-	7	7	5	5 [1]	7
		DREAR	-	-	8	-	-	8
		3d Bde	-	1.5 [2]	-	-	-	1.5 [2]
		Division	5	5	7	2	5 [1]	5

FOOTNOTES:

[1] Values: 3, 7
[2] Values: 1, 2

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
PD.2.0	Variety of Participants - Directives (median) [# of staff sections]							
	CP:	DMAIN	3	3	4	2	-	3
		DTAC	-	4	4	3	2.5 [1]	3
		DREAR	-	-	4	-	-	4
		3d Bde	-	1 [2]	-	-	-	1 [2]
		Division	3	3	4	2	2.5 [1]	3

FOOTNOTE:

[1] Values: 2, 3
[2] Values: 1, 1

CATEGORY PD: PREPARATION OF DIRECTIVE MEASURE

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
PD.3.0	Directive Preparation Time (median in hours) [time work ceases on directive minus time of decision on COA]	-	-	-	-	-	-
PD.4.0	Warning Order Time (median in hours) [time work ceases on warning order minus time of decision on COA]	-	-	-	-	-	-
PD.5.0	Directive Time-Span (median in hours) [time directive expected to be fully completed minus time execution of first elementsbegins]	-	-	-	-	-	-
PD.6.0	Directive Match With Commander's Intent (%) [# of consistent elements/ total # of elements]	-	-	-	-	-	-
PD.7.0	Clarity of Directives (%) [# not req clarification/ total # of directives]						
	CP: DMAIN	50 [1/2]	80 [28/10]	75 [3/4]	67 [2/3]	-	72 [14/19]
	DTAC	-	80 [4/5]	100 [3/3]	0 [0/1]	100 [2/2]	82 [9/11]
	DREAR	-	-	100 [1/1]	-	-	100 [1/1]
	3d Bde	-	100 [2/2]	100 [1/1]	-	-	100 [3/3]
	Division	50 [1/2]	82 [14/17]	89 [8/9]	50 [2/4]	100 [2/2]	84 [27/32]

CATEGORY PD: PREPARATION OF DIRECTIVE MEASURE

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
PD.8.0	Lead Time (hours) for Directive Planning (median) [directive implementation time minus directive receipt time]	-	-	-	-	-	-
PD.9.0	Warning Order Lead Time (median in hours) [directive implementation time - warning order receipt time]	-	-	-	-	-	-
PD.10.0	Directive Impact on Plans (%) [# of directive fully implemented at intended time/total # of directives]						
	CP: DMAIN	50 [1/2]	90 [9/10]	75 [3/4]	-	-	81 [13/16]
	DTAC	-	100. [1/1]	100 [2/2]	100 [1/1]	100 [2/2]	100 [6/6]
	DREAR	-	-	100 [1/1]	-	-	100 [1/1]
	3d Bde	-	100 [1/1]	100 [1/1]	-	-	100 [2/2]
	Division	50 [1/2]	92 [11/12]	88 [7/8]	100 [1/1]	100 [2/2]	88 [22/25]

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.1.1	Friendly Status Report (FSR) Sent [# of reports sent in a selected period of time]						
	CP: 3d Bde	-	2	-	-	-	2
O.1.11	FSR Punctuality (%) [# of FSRs sent early or on time/total # of FSRs sent]	-	-	-	-	-	-
O.1.12	Timing of Punctual Reports (median in hours) [time due minus time sent]	-	-	-	-	-	-
O.1.13	FSR Lateness (%) [# of FSRs sent late/ total # of FSRs sent]	-	-	-	-	-	-
O.1.14	Timing of Late Reports (median in hours) [time sent minus due time]	-	-	-	-	-	-
O.1.15	FSR Transmission Time (median in hours) [time FSR received by adressee minus time FSR sent]	-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
O.1.2	Enemy Intelligence Summary (INTSUM) Sent [# of reports sent in a selected period of time]							
	CP:	DMAIN	1	-	2	2	-	5
		DTAC	-	-	-	-	-	-
		DREAR	-	-	-	-	-	-
		3d Bde	-	-	-	-	-	-
		Division	1	-	2	2	-	5
O.1.21	INTSUM Punctuality (%) [# of INTSUMs sent early or on time/total # of INTSUMs sent]		-	-	-	-	-	-
O.1.22	Timing of Punctual Reports (median in hours) [time due minus time sent]		-	-	-	-	-	-
O.1.23	INTSUM Lateness (%) [# of INTSUMs sent late/total # of INTSUMS sent]		-	-	-	-	-	-
O.1.24	Timing of Late Reports (median in hours) [time sent minus time due]		-	-	-	-	-	-
O.1.25	INTSUM Transmission Time (median in hours) [time INTSUM received by adressee minus time INTSUM sent]		-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.2.1	FSR Completeness (%) [# of complete FSRs/ total # of FSRs sent]						
	CP: 3d Bde	-	100 [2/2]	-	-	-	-
O.2.11	FSR Unit Completeness (%) [# of FSRs identifying units/total # of FSRs sent]						
	CP: 3d Bde	-	100 [2/2]	-	-	-	-
O.2.12	FSR Location Completeness (%) [# of FSRs identifying locations/total # of FSRs sent]						
	CP: 3d Bde	-	100 [2/2]	-	-	-	100 [2/2]

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.2.13	FSR Capability Completeness (%) [# of FSRs identifying capability/total # of FSRs sent]						
	CP: 3d Bde	-	100 [2/2]	-	-	-	100 [2/2]
O.2.14	FSR Activity Completeness(%) [# of FSRs identifying activity/total # of FSRs sent]						
	CP: 3d Bde	-	100 [2/2]	-	-	-	100 [2/2]
O.2.2	INTSUM Completeness (%) [# of complete INTSUMs/ total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.2.21	INTSUM Unit Completeness (%) [# of INTSUMs identifying units/total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]
O.2.22	INTSUM Location Completeness (%) [# of INTSUMs identifying locations/total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]
O.2.23	INTSUM Capability Completeness (%) [# of INTSUMs identifying capability/total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.2.24	INTSUM Activity Completeness (%) [# of INTSUMs identifying activity/total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]
O.3.1	FSR Non-Location Accuracy (%) [# of elements correctly reported/total # of elements]	-	-	-	-	-	-
O.3.11	FSR Identification Accuracy (%) [# of units correctly identified/total # of units]	-	-	-	-	-	-
O.3.12	FSR Capability Accuracy (%) [# of units whose capabilties are correctly reported/total # of units]	-	-	-	-	-	-
O.3.13	FSR Activity Accuracy (%) [# of units whose activities are correctly reported/total # of units]	-	-	-	-	-	-
O.3.14	FSR Location Accuracy (median error in km) [distance of (locaiton reported versus ground truth location)]	-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.3.2	INTSUM Non-Location Accuracy (%) [# of elements correctly reported/total # of elements]	-	-	-	-	-	-
O.3.21	INTSUM Identification Accuracy (%) [# of units correctly identified/total # of units]	-	-	-	-	-	-
O.3.22	INTSUM Capability Accuracy (%) [# of units whose capabilities are correctly reported/total # of units]	-	-	-	-	-	-
O.3.23	INTSUM Activity Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-
O.3.24	INTSUM Location Accuracy (median error in km) [distance of (location reported versus ground truth locations)]	-	-	-	-	-	-
O.4.1	FSR Information Currency (median in hours) [time of the report when sent minus time of the oldest report element]	-	-	-	-	-	-
O.4.2	INTSUM Information Currency (median in hours) [time of the report when sent minus time of the oldest report element]	-	-	-	-	-	-
O.5.1	FSR Requests for Information (%) [# of elements queried/ # of elements missing or unclear]	-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES			DAY					
NUMBER	TITLE		1	2	3	4	5	AGGREGATE
O.5.11	Friendly Spot Reports Queried (%) [# of friendly spot reports queried/total # of friendly spot reports with missing or unclear information]							
	CP:	DMAIN	-	0 [0/1]	-	-	-	0 [0/1]
		3d Bde	-	0 [0/4]	0 [0/3]	0 [0/2]	0 [0/1]	0 [0/10]
		Division	-	0 [0/5]	0 [0/3]	0 [0/2]	0 [0/1]	0 [0/11]
O.5.2	*INTSUM Requests for* Information (%) [# of elements queried/# of elements missing or unclear]		-	-	-	-	-	-
O.5.21	Enemy Spot Reports Queried (%) [# of enemy spot reports queried/total # of enemy spot reports with missing or unclear information]		-	-	-	-	-	-
O.6.1	FSR Satisfaction (%) [# of FSRs requiring no follow-up/total # of FSRs sent]		-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.6.2	INTSUM Satisfaction (%) [# of INTSUMs requiring no follow-up/total # of INTSUMs sent]						
	CP: DMAIN	100 [1/1]	-	100 [2/2]	100 [2/2]	-	100 [5/5]
O.7.11	Friendly Spot Report Currency (median in hours) [time of original stimulus minus time report sent]	-	-	-	-	-	-
O.7.12	Friendly Spot Report Transmission Time [time report received by addressee minus time report sent]	-	-	-	-	-	-
O.7.13	Friendly Spot Report Evaluation Time (median in hours) [time evaluated minus time received]	-	-	-	-	-	-
O.7.14	Friendly Spot Report Speed (median in hours) [time transmitted minus time evaluated]	-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.7.21	Enemy Spot Report Currency (median in hours) [time transmitted minus time evaluated]	-	-	-	-	-	-
O.7.22	Enemy Spot Report Transmission Time (median in hours) [time report received by addressee minus time report sent]	-	-	-	-	-	-
O.7.23	Enemy Spot Report Evaluation Time (median in hours) [time evaluated minus time received]	-	-	-	-	-	-
O.7.24	Enemy Spot Report Speed (median in hours) [time transmitted minus time evaluated]	-	-	-	-	-	-
O.8.1	Friendly Spot Report Non-Location Accuracy (%) [# of elements correctly reported/total # of elements]	-	-	-	-	-	-
O.8.11	Friendly Spot Report Identification Accuracy (%) [# of units correctly identified/total # of units]	-	-	-	-	-	-
O.8.12	Friendly Spot Report Capability Accuracy (%) [# of units whose capabilities are correctly identified/ total # of units]	-	-	-	-	-	-
O.8.13	Friendly Spot Report Combat Activities Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-

CATEGORY O: OUTGOING INFORMATION HANDLING

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
O.8.14	Friendly Spot Report Location Accuracy (median error in km) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
O.8.2	Enemy Spot Report Non-Location Accuracy (%) [# of elements corrrectly reported/total # of elements]	-	-	-	-	-	-
O.8.21	Enemy Spot Report Identification Accuracy (%) [# of units correctly identified/total # of units]	-	-	-	-	-	-
O.8.22	Enemy Spot Report Capability Accuracy (%) [# of units whose capabiities are correctlyidentified/ total # of units]	-	-	-	-	-	-
O.8.23	Enemy Spot Report Combat Acitvities Accuracy (%) [# of units whose activities are correctly reported/ total # of units]	-	-	-	-	-	-
O.8.24	Enemy Spot Report Location Accuracy (median error in km) [distance of (location reported versus ground truth location)]	-	-	-	-	-	-
O.9.0	Report Impact on Plan (%) [# of plan changes not due to report problems/ total # of plan changes]	-	-	-	-	-	-

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.1.0	Decision Maker						
CP:	DMAIN						
	CDR	2	3	6	4	2	17
	AdC	-	2	1	3	-	6
	C of S/XO	-	1	-	1	-	2
	G3	1	5	4	6	-	16
	G2	-	1	1	-	-	-
	Other	-	1	1	-	-	2
	Unknown	-	1	-	-	-	1
	All	3	14	13	14	2	46
	DTAC						
	CDR	-	1	-	3	1	5
	AdC	-	6	3	4	2	15
	G3	-	-	2	1	-	3
	Other	-	-	-	-	1	1
	Unknown	-	-	-	-	-	-
	All	-	7	5	8	4	24

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.1.0	Decision Maker						
CP:	DREAR						
	CDR	-	-	-	1	2	3
	AdC	-	1	-	-	-	1
	G3	1	2	-	-	1	4
	Unknown	-	-	1	-	-	1
	All	1	3	1	1	3	9
	3d Bde						
	CDR	-	3	-	-	-	3
	Sub CDR	-	1	-	-	-	1
	S3	-	3	-	-	-	3
	All	-	7	-	-	-	7

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY				
NUMBER	TITLE	1	2	3	4	5
DC.2.0	Affected Units					
CP:	DMAIN	1 Bde	2 Bde	Cbt Air Cav	DIVARTY	DIVARTY
		3 Bde	Div CHEM units	ACR	All Bdes	
		2 Bde		1 Bde	AVN units	
				3 Bde	Div ENG	
				2 Bde	ACR	
				1 Cav Trp	Inf Bn	
	DTAC	-	CBACC	2 Bde	2 Bde	1 Bde
			4 Bde	3 Bde	DIVARTY	DIVARTY
			3 Bde	DIVARTY	1 Bde	Div ENG
			2 Bde	4 Bde	Div Elements	ACR
			Div ENG		Div ENG	Cav
			DIVARTY		2 Cav Trps	
					Atk Helo Bn	
					FA Bn	

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY				
NUMBER	TITLE	1	2	3	4	5
DC.2.0	Affected Units					
CP:	DREAR	-	CBAC	2 Bde	2 Bde	1 Bde
			4 Bde	3 Bde	DIVARTY	3d ACR
			3 Bde	DIVARTY	1 Bde	Cav
			2 Bde	4 Arty	Div ENG	DIVARTY
			Div ENG	MI Bn	Cav Div	
			DIVARTY		ATK Bn	
					Cav Trp	
					2-35	
	3d Bde	MPs	USAF	2 Bde	-	-
				2-7 Cav		

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.3.0	Decision Focus						
CP:	DMAIN						
	Mission	4	7	9	7	-	27
	Task Org	-	3	5	2	-	10
	Supports	1	4	2	3	-	10
	Schedules	-	2	2	2	-	6
	Boundaries	-	1	3	3	-	7
	Other	-	2	-	3	-	5
	Unknown	-	-	1	1	-	2
	All	5	19	22	21	-	57
	DTAC						
	Mission	4	7	9	8	3	30
	Task Org	-	3	5	2	-	10
	Supports	1	4	3	4	4	15
	Schedules	-	2	2	1	1	7
	Boundaries	-	1	3	4	-	8
	Other	-	2	-	3	1	6
	Unknown	-	-	1	1	-	2
	All	5	19	23	23	9	78

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.3.0	Decision Focus						
CP:	DREAR						
	Mission	1	1	-	1	2	5
	Task Org	-	-	1	-	-	1
	Supports	1	2	-	1	1	5
	Boundaries	-	-	-	1	-	1
	Other	-	1	-	-	1	2
	All	2	4	1	3	4	14
	3d Bde						
	Mission	-	4	-	-	-	4
	Task Org	-	2	-	-	-	2
	Schedules	-	1	-	-	-	1
	Boundaries	-	1	-	-	-	1
	Other	-	1	-	-	-	1
	Unknown	-	-	-	-	-	-
	All	-	9	-	-	-	9

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY				
NUMBER	TITLE	1	2	3	4	5
DC.5.0	Time of Decision					
CP:	DMAIN	1918 2147	0210 0350 0436 0930 1001 1043 1109 1154 1656 2145	0705 0712 0825 0825 0946 1020 1030 1115 1516 1545 1650 2257	0735 0739 0752 0756 0805 0812 1135 1427 1434 1500 1720 1800 2120 2126	0100 0601
	DTAC	-	1855 1856 1917 2044 2138 2359	0033 0051 0345 0440 1833	0530 1438 1850 1900 1933 2055 2100 2239	0100 0700 0727 1130
	DRear	-	0808 0818 1627 1711 1715 1832 1940	-	-	-

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY				
NUMBER	TITLE	1	2	3	4	5
DC.5.0	Time of Decision					
CP:	3d Bde	-	1920 1600 1032	0646	0946	0325 0613 0900

NOTES:

Day 1 - Two decision times unknown
Day 2 - Five decision times unknown
Day 3 - One decision time unknown

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.6.0	Type of Operation						
CP:	DMAIN						
	Offensive	3	8	5	1	2	19
	Defensive	-	-	3	8	-	11
	Other	-	2	1	2	-	5
	Unknown	-	4	4	3	-	11
	All	3	14	13	14	2	46
	DTAC						
	Offensive	-	4	1	1	-	6
	Defensive	-	1	2	1	3	7
	Other	-	1	1	6	-	8
	Unknown	-	1	1	-	1	3
	All	-	7	5	8	4	24

CATEGORY DC: DECISION CONTEXT

MEASURES		DAY					
NUMBER	TITLE	1	2	3	4	5	AGGREGATE
DC.6.0	Type of Operation						
	CP: DREAR						
	Offensive	-	-	-	1	1	2
	Defensive	-	-	-	-	1	1
	Other	-	1	-	-	-	1
	Unknown	1	2	1	-	1	5
	All	1	3	1	1	3	9
	3d Bde						
	Offensive	-	4	-	-	-	4
	Defensive	-	3	-	-	-	3
	All	-	7	-	-	-	7

9. Category xE: Exercise Control Measures.

a. Description. Measures in this category do not address unit activities or outcome of the exercise but rather the conditions under which the exercise is conducted. Factors pertaining to the unit are type of unit, staffing level, recent combat/field experience, and familiarity with the exercise scenario. Factors pertaining to exercise conduct include realism in the exercise environment, duration and intensity of the exercise, degree to which higher and adjacent HQ are represented and the capabilities of the threat played against the unit. Weather and terrain impacts on the exercise are also noted. These factors contribute to the overall understanding of the outcome of the exercise.

AE.1.0 Exercise Environment Authenticity. This was a command post exercise conducted in a field environment with the deployed elements of the Division Tactical Operations Centers (DMain, DRear, DTac).

AE.2.0 Exercise Period. The exercise was conducted over a 5-day period in the early summer of 1991.

AE.2.1 Operational Phase of the Exercise. Phases of the tactical exercise "play" from STARTEX through battle phases to ENDEX.

Comments.

STARTEX	Day 1 (042045)
Initial Contact	Day 2 (051230)
Offensive	Day 2 (051510)
Defensive	Day 3 (060400)
Offensive	Day 3 (061300)
Defensive	Day 3 (062300)
ENDEX	Day 5 (082200)

AE.3.0 Higher HQ Representation. Higher headquarters were represented by the corps commander and his primary staff.

AE.3.1. Adjacent HQ Representation. Adjacent headquarters participation consisted of less than full staff with no computer enhancements.

UE.1.0 UNIT EXPERIENCE. Within the last 24 months the division prepared for deployment to Persian Gulf; 20% of its units actually did deploy.

UE.1.1 Unit Time in Field. The unit has spent approximately two months in the field in the past two years.

UE.1.2 Unit Time Out of Action. 20% of the unit was in combat three months prior to the exercise. the length of time the other 80% has been out of action is unknown.

UE.2.0 Unit Echelon. The unit participating in this excise was a division.

UE.3.0 Unit Type. The division is a mechanized infantry division.

UE.4.0 Extended Staff Size. Numerical size of the extended staff (staff that reports to the commander, assistant commanders, chief of staff and principle general and special staff members). There were no data collected to address this measure.

UE.4.1 Extended Staff to TO&E Ratio. Ratio of the extended staff to the TO&E staff positions. There were no data collected to address this measure.

UE.4.2 Extended Staff Time with Unit. Median length of time extended staff member have been with the unit. There were no data collected to address this measure.

UE.4.3 Extended Staff Time In Position. Median length of time the extended staff members have been in current positions. There were no data collected to address this measure.

UE.5.0 Immediate Staff Size. There were no data collected to address this measure.

UE.5.1 Immediate Staff to TO&E Ratio. Ratio of sizes of immediate staff to the staff TO&E. There were no data collected to address this measure.

UE.5.2 The median length of time immediate staff members has been with the unit is period of eight months.

UE.5.3 Immediate Staff Time in Position. No data were collected to address this measure.

UE.6.0 UNIT C2 AUTOMATION. For C2/automation and communication capabilities, the unit used Maneuver Control System (MCS)/Mobile Subscriber Equipment (MSE).

EE.1.0 WEATHER IMPACT ON EXERCISE. Weather had minimal impact on the exercise.

EE.2.0 Terrain Impact On Exercise. Terrain over which the exercise scenario was conducted had no impact on the exercise.

EE.3.0 HABITABILITY. The unit was operating/living in field conditions.

EE.4.0 EXERCISE WORKLOAD. Timespan (median) of continuous exercise participation without rest for principle participants. There were no data collected to evaluate this measure.

EE.4.1 Exercise Shifts. This measure quantifies the shift length (median) for participants. The length of a normal shift of the unit for the exercise was 12 hours.

EE.4.2 Exercise Overtime. Percentage of principal participants who worked beyond the longer than normal shifts. There were no data collected to evaluate this measure; however, principal participants generally worked longer than normal shifts.

EE.5.0 Combat Intensity. Combat intensity during the exercise was high.

EE.6.0 Exercise Uncertainty. Unit's familiarity with exercise scenario, terrain, opposing forces, and friendly forces. There were no data collected to address this measure.

EE.7.0 Pace of Exercise. Relative frequency of events that created new military situations. There were no data collected to address this measure.

EE.8.0 Threat Environment in Exercise. Measure of enemy threat in which the unit operated during the exercise. There were no data collected to address this measure.

APPENDIX B
EXERCISE SUMMARY

Key events in the exercise are summarized below and presented graphically in Figure B-1.

When the exercise began the division had already deployed into the theater of operation and occupied tactical assault areas (TAA).

Late in Day 1 (STARTEX) the armored cavalry regiment that was to screen the division front started moving out of the TAA and made first contact with the opposing tank division some 2 1/2 hours later.

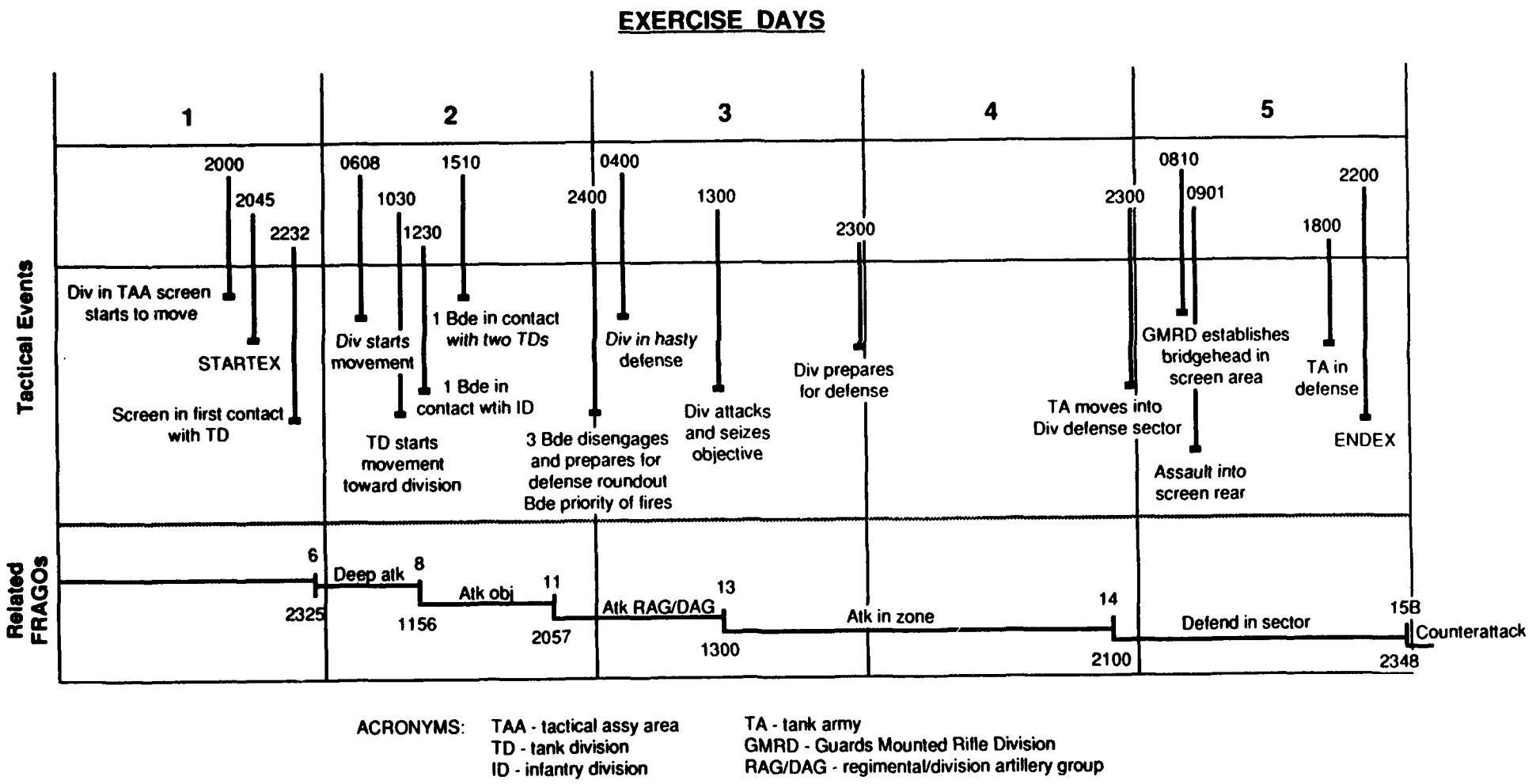
Early in Day 2 the division began moving lead elements out. Approximately midday the leading brigade of the division made contact with opposing forces and by midafternoon was in contact with two tank divisions.

In the morning of Day 3 the division was in a hasty defensive posture. By midafternoon the division went back on the offensive and secured its objective by early evening. Later in the night of Day 3 the division began preparing defensive positions for defense against the opposing tank army.

Just before midnight of Day 4 an opposing tank division and elements of a tank army moved into the division's defensive sector.

In the early hours of Day 5 a bridgehead was established on the division flank and an unsuccessful enemy air assault was attempted into the rear area of the cavalry regiment screening the division flank.

Approximately four hours prior to ENDEX the opposing tank army was well into the division's defense sector. A counterattack was planned for 2348 on Day 5, but was not executed because of ENDEX.



ACRONYMS:
TAA - tactical assy area
TD - tank division
ID - infantry division
TA - tank army
GMRD - Guards Mounted Rifle Division
RAG/DAG - regimental/division artillery group

Figure B-1